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The Role of Leasing in UK Corporate Financing Decisions, Accounting Treatment and Market Impact

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Part 2:
Lease accounting reform

Chapter 7: Introduction – Lease accounting reform

The broad research question addressed in the second part to this thesis is 'what are the views and opinions of financial statement preparers in relation to lease accounting reform?'

The motivation behind this question stems from the reactionary steps preparers might take in response to lease accounting reform, and the subsequent impact on the role of leasing in UK corporate financing decisions. It is recognised that, although views and opinions do not necessarily reflect behaviour, they might at least be expected to influence it. An indication of the views and opinions of financial statement preparers, at this time, assists policy makers during their consultation process. The present study provides empirical evidence which may assist in the development of a high quality lease accounting standard.

The aim of this chapter is to introduce the current lease accounting treatment in comparison to the proposals for reform, and the potential consequences. The approach taken in the present study is highlighted, along with an explanation of how the remaining chapters to this part of the thesis are organised.

In the absence of specific accounting regulation, leasing historically developed as a major source of off-balance sheet financing. Lease obligations were generally expensed in the profit and loss account. The absence of balance sheet recognition meant performance ratios and borrowing powers went unaffected. Information provided by financial statements became both inadequate and distorting owing to the failure to recognise substantial assets and liabilities arising from leasing contracts (McGregor, 1996). In response, the present lease accounting treatment came into force in 1984, when SSAP 21 'Accounting for leases and hire purchase contracts' was introduced. SSAP 21 classifies lease agreements into two types: finance leases and operating leases. Finance leases in which substantially all the risks and rewards of ownership of an asset are transferred to the lessee, are recognised on the balance sheet. Next years' operating lease obligations are disclosed in the notes to the accounts. The transfer of risks and rewards is presumed to occur if, at the inception of the lease, the present value of the minimum lease

payments amounts to 90% or more of the fair value of the leased asset (paragraph 15, SSAP 21). It was not intended that the 90% present value test be interpreted as a strict mathematical definition of a finance lease. All of the terms and conditions of the lease agreement should be considered when determining if substantially all risks and rewards of ownership have been transferred (Technical release 664, 1987). However, in the absence of qualitative tests, classification for a lease failing to meet the 90% test becomes a matter of subjective judgement.

SSAP 21 does not eradicate leasing as a source of off-balance sheet financing. Evidence exists of company management's unwillingness to disclose methods used in lease classification (Loveday, 1994). Also, of their admission to restructuring lease agreements to avoid finance lease capitalisation (Taylor and Turley, 1985; Drury and Braund, 1990). Operating leases are extensively used, whereas the use of finance leases appears to be in decline (Beattie et al., 1998). Application of SSAP 21 in this climate has been said to provide inadequate and distorting information in relation to the effective asset base and liabilities of certain companies (Tweedie and Whittington, 1990). Consequently, standard setters have responded with the publication of proposals for a new approach ('Leases: Implementation of a New Approach', ASB 1999).

It is proposed that the distinction between finance and operating leases be removed in favour of the application of a single lease accounting treatment. Under this proposed treatment, the rights and obligations arising from all material lease agreements would be recognised on the balance sheet. It is thus anticipated that balance sheet recognition be extended to include many agreements currently classed as 'off-balance sheet' operating leases. The intention being to improve the information provided, in relation to a reporting entity's effective asset base and liabilities, for decision-making.

The potential consequences of the new approach stem from the impact on financial statement performance indicators and stock market prices. The impact on decision-making depends on whether obligations are perceived differently according to balance sheet recognition versus footnote disclosure; and whether balance sheet recognition extends the information currently provided. Prior research in the US and

the UK indicates that recognising operating lease obligations on the balance sheet would have a significant impact on reported measures of performance (Imhoff et al., 1991; Beattie et al., 1998). However, the significance of the impact on performance measures is irrelevant if users themselves adjust performance measures to take operating lease disclosures into account. Evidence from outside the UK in relation to individual users being influenced by alternative lease accounting treatment is mixed (Wilkins and Zimmer, 1983a, 1983b; Munter and Radcliffe, 1983; Wilkins, 1984; Gopalakrishnan and Parkash, 1996). However, operating leases appear to be recognised by aggregate users in the US market's assessment of equity risk (Imhoff et al., 1993; Ely, 1995). There appears to be a distinct lack of investigation in relation to the UK situation. This is partly redressed in the study presented in the final part to this thesis. This study investigates whether operating lease disclosures are currently included in UK market assessments of equity risk. Findings appear to suggest that operating lease disclosures are recognised in the UK, at least to some extent.

The extent to which the full implications of operating lease obligations can be appreciated from footnote disclosure is not conclusive. To adjust performance measures to take account of operating lease disclosures requires (at least implicitly) an accurate estimate of the present value of operating lease rental obligations over the lease term. In the absence of information concerning the precise terms and conditions exclusive to individual lease contracts, only approximate adjustments appear possible. Under the new approach, the terms and conditions of individual lease contracts would be reflected in balance sheet amounts. The new approach thus has the potential to extend the information currently provided, and consequently to impact on the decision-making of users of financial statements.

Increased awareness of operating lease obligations may alter users' perceptions of the risk of investment in certain companies, subsequently impacting on share price. It may also alter the perceptions of lenders, suppliers and customers in relation to the risk of entering transactions with certain companies. However, implementing a new approach to lease accounting also has the potential to alter the decision-making of preparers in anticipation of these potential user reactions. Further, the impact on preparers' decision-making is not dependent on the actual extent to which the new

approach would alter users' decision-making. The impact depends on preparers' own perceptions of recognition versus disclosure of lease accounting information.

Financial statement preparers may take steps to minimise an anticipated increase in balance sheet obligations in advance of the introduction of new lease accounting treatment. It is widely proposed that the provision of off-balance sheet financing was a major contributor to the initial growth in the use of leasing (ACCA, 2000). SSAP 21 does not appear to have hindered the process by permitting operating leases to remain off-balance sheet. In anticipation of finance lease capitalisation, firms appear to have merely replaced finance leases with agreements structured as operating leases. First and foremost, any opportunity to minimise obligations through the manipulation of the new treatment is therefore likely to be exercised. However, the new treatment aims to extend balance sheet recognition. Therefore, in order to minimise balance sheet obligations, actual obligations may need to be minimised, and firms forced to reduce levels of leasing and/or other sources of finance. Indeed, evidence suggests this appeared to be the case in advance of finance lease capitalisation in the US, Australia and the UK (Imhoff and Thomas, 1988; Godfrey and Warren, 1995; Garrod, 1989).

The new approach to lease accounting, therefore, has the potential to influence financing and subsequently investment decisions, through the prevention of adverse user reactions to increased balance sheet obligations. The use of leasing may not only potentially decline in relation to an overall decline in levels of finance. Increased preference for other sources of finance could result from the loss of leasing as an off-balance sheet source. The reform of lease accounting regulation could potentially alter the role of leasing in UK corporate financing decisions.

It is only possible to predict the behaviour of financial statement preparers in advance of new lease accounting regulation. However, the process is assisted by an indication of the views and opinions held in relation to lease accounting reform. The views and opinions of preparers were previously sought in advance of the introduction of SSAP 21 (Taylor and Turley, 1985). Although the majority of respondents failed to acknowledge that investment and financing decisions would be affected at that time, the potential was not completely dismissed. Further, the

intention of restructuring to avoid finance lease capitalisation was evident – an indication of future behaviour which appears to have been realised. It begs the question of whether due consideration of the consequences then, might have prevented the need for reform now? An indication of present views and opinions in advance of proposed new regulation could prove equally insightful.

In response, the present study investigates the views and opinions of the finance directors of UK quoted industrial companies, in their capacity as account preparers. The study was conducted in June 2000, shortly following the publication of the proposed new approach in December 1999. A questionnaire survey was employed to obtain a wide range of information in relation to SSAP 21, the new proposals for both general and specific features to lease agreements, potential consequences and alternative treatments. The information sought is the product of a comprehensive review of SSAP 21, the new approach, published comments by interested parties, and prior research. The aim was to implicitly investigate preparers' perceptions of both existing and proposed lease accounting treatment in terms of quality. Also, to explicitly establish preparers' views on the consequences of adopting the new approach and the reactionary steps they might be prepared to take. Established survey techniques were rigorously employed to achieve an acceptable response rate, and to ensure that the responses received were both reliable and provided in context.

The remainder of this part of the thesis is organised as follows: Chapter 8 provides an analysis of lease accounting regulation and prior research. The current accounting treatment is compared to the proposed new approach. Consideration is given to published responses to the new approach, and the new approach is evaluated in terms of the potential characteristics of a high quality lease accounting standard. Prior research is analysed in relation to the consequences of alternative lease accounting treatments. Chapter 9 describes the survey instrument used to obtain views and opinions on lease accounting reform. Chapter 10 documents the results, and Chapter 11 offers a summary and conclusions.

Chapter 8: Lease accounting – regulation and prior research

8.1: Lease accounting regulation

8.1.1 Background and current lease accounting treatment

The use of leasing in the UK grew substantially during the 1970's and early 1980's when specific lease accounting regulation was absent. At the time, rights and obligations arising from a lease agreement were not recognised as assets and liabilities on the balance sheet of the lessee. Lease rentals were expensed in the profit and loss account, and as a result gearing ratios and borrowing powers went unaffected. Accounting practice of the time emphasised legal ownership of physical assets, rather than legal ownership of 'a right to use' physical assets. Consequently, leasing developed as a major source of 'off-balance sheet' financing.

It was eventually recognised that the information provided by financial statements was both inadequate and distorting owing to the failure to recognise the substantial assets and liabilities arising from leasing contracts (McGregor, 1996). In response, the Accounting Standards Committee introduced SSAP 21 'Accounting for Leases and Hire Purchase Contracts' in 1984, which remains in force today. SSAP 21 classifies lease agreements into two types: finance leases and operating leases, each requiring radically different accounting treatment. Internationally, other existing standards such as IAS 17 (revised 1997) and SFAS 13 in the USA adopt a similar approach.

SSAP 21 requires finance leases, in which substantially all the risks and rewards of ownership of an asset are transferred to the lessee, to be capitalised, with the asset and corresponding liability under the lease agreement recorded on the balance sheet. The transfer of risks and rewards is presumed to occur, if at the inception of the lease, the present value of the minimum lease payments, amounts to 90% or more of the fair value of the leased asset[1]. Operating leases, which fall outside this classification, are permitted to remain off the balance sheet. Operating lease rentals charged to the profit and loss account for the current year and next year's commitments are required to be disclosed. Next year's commitments are divided between those in which the commitment expires within that year, in the second to

fifth year inclusive and in over five years from the balance sheet date. Separate disclosure is required for leased land and buildings and other assets.

If lease classification were as clear cut as it first appears, and operating leases amount to nothing more than a cancellable periodic expense, then SSAP 21 could be said to virtually eradicate the use of leasing as 'off-balance sheet' financing. However, this does not appear to be the case. Although SSAP 21 provides the 90% present value test, it was not the Accounting Standards Committee's intention that it be employed as a strict mathematical definition of a finance lease. Technical release 664 issued in 1987 makes this abundantly clear when it emphasises that classification hinges on all aspects of the terms and conditions of the lease agreement, to determine whether substantially all risks and rewards of ownership have been transferred. In the absence of qualitative tests to determine if this is the case for a lease failing to meet the 90% test, classification becomes a grey area of subjective judgement.

The suggestion that SSAP 21 does not eradicate the use of leasing as a method of 'off-balance sheet' financing was substantiated by Tweedie and Whittington (1990, p.88) when considering current problems in financial reporting. Attention was drawn to the fact that there are companies 'whose effective asset base and liabilities are not wholly on the balance sheet as a result of the extensive use of leasing and the arbitrary nature of the leasing standards rules. In addition, evidence exists of company managers' unwillingness to disclose methods used in lease classification (Loveday, 1994). Also of their admission to restructuring lease agreements as operating leases to avoid capitalisation (Taylor and Turley, 1985; Drury and Braund, 1990).

The issue of 'off-balance sheet' financing by methods other than leasing was addressed with the introduction of FRS 5 'Reporting the substance of transactions', by the now Accounting Standards Board (ASB) in 1994. FRS 5 requires the recognition of assets and liabilities to the extent that risks and rewards have been transferred. FRS 5 is thus in conflict with SSAP 21 requirements of recognition to

[1] SSAP 21 'Accounting for Leases and Hire Purchase Contracts', para 15.

the extent that *substantially* all risks and rewards have been transferred. FRS 5 has no precedence over SSAP 21. If it were applicable to leasing transactions, many agreements currently classed as operating leases under SSAP 21 (because substantially all risks and rewards have not been transferred) would find their way onto the balance sheet to the extent risks and rewards have been transferred. This conflict between FRS 5 and SSAP 21, and the opportunity to use operating leases as 'off-balance sheet' finance, has moved the ASB to review lease accounting regulation.

8.1.2 An alternative approach to lease accounting in comparison to existing treatment

In 1994, Sir David Tweedie (then chairman of the ASB) remarked ' is there any point in capitalising only finance leases? If a company has a binding obligation to pay lease rentals, these result in a liability even if the lease does not fall within the existing definition of a finance lease' (ICAS Festival of Accounting). In July 1996, a special report 'Accounting for Leases: A New Approach' was published as a joint effort between accounting standard setters in Australia, New Zealand, Canada, US, UK and the International Accounting Standards Committee (McGregor, 1996). The report discussed the limitations of current lease accounting standards and set out a new approach to potentially overcome them. It formed the basis of the discussion paper issued by the ASB in December 1999, 'Leases: Implementation of a New Approach'.

The discussion paper specifically highlights the deficiencies of the current lease accounting standard. SSAP 21 does not provide for the recognition in the lessee's balance sheet of material assets and liabilities arising from operating leases. The 90% threshold for determining a finance lease is considered arbitrary, and can result in substantially similar transactions being accounted for in very different ways. The difficulty and subjectivity involved in distinguishing between finance leases and operating leases is acknowledged, as is the fact that the standard is sometimes circumvented by transactions being structured to meet operating lease classification. In response, a new approach was suggested in which all material leases would be accounted for in the same way, using existing principles for asset and liability

recognition. Under these principles, the right to use an item of property from which economic benefit is expected constitutes an asset, rather than the physical item itself. All lease agreements provide lessees with assets and liabilities in terms of the right to use leased property for the duration of the lease term in exchange for the obligation to make rental payments. Many leases, currently classed as operating leases, would give rise to balance sheet assets and liabilities under the new approach. Rather than the full value of the leased item appearing on the balance sheet which is the current situation when substantially all risks and rewards are transferred, the value of the rights and obligations extended by the agreement would be shown. It is proposed that this value cannot be less than the present value of minimum lease payments, assuming the lease is negotiated on an arm's length basis. It is intended that these general principles apply to all material lease agreements, irrespective of the nature of the leased asset or the duration of the lease term.

Under the new approach, the nature of the leasing arrangement would be reflected in the amounts recognised by lessees as assets and liabilities. Lease agreements may offer financial flexibility through the use of optional features. The accounting treatment of these features is addressed in some detail in the discussion paper.

Lease rentals may not be fixed over a definite term. They may vary with asset use, for example a charge levied for additional mileage travelled above a defined limit in a leased vehicle. Lease rentals may be linked to the revenue or profits realised from the use of leased property, for example, trading from leased retail outlets. Rentals may also vary in line with prices, for example rent revisions in property lease agreements to reflect increased market prices. Under the present standard SSAP 21, lease rentals which are contingent on asset use, profits, revenues or market prices are not included as minimum lease payments when establishing lease classification, nor on the balance sheet if the agreement meets the definition of a finance lease. Any payments made over the fixed rental amount, are treated as an additional finance charge and expensed in the profit and loss account in the period in which they occur. SSAP 21 thus provides the opportunity for leasing transactions to be structured to avoid finance lease classification by incorporating a large contingent element to rental payments.

In contrast, rental payments that vary, as a result of the length of the lease term, may be included in lease classification and the balance sheet. SSAP 21 defines minimum lease payments as minimum payments (including any guaranteed residual amounts) over the remaining part of the lease term (paragraph 20). The lease term is 'the period for which the lessee has contracted to lease the asset and any further terms for which the lessee has the option to continue to lease the asset, with or without further payment, which option it is reasonably certain at the inception of the lease that the lessee will exercise' (paragraph 19). Therefore, if lease agreements include renewal/purchase options to extend the term of the lease, and it is reasonably certain that these options will be exercised, then the present value of minimum lease payments over the extended term determines lease classification and balance sheet amounts.

SSAP 21 might be considered to be inconsistent in relation to the perceived similarity between leases with renewal options and those with rentals contingent on asset usage. According to the discussion paper, both give the lessee the option to 'purchase more' of the asset, the difference being in terms of more time or more physical use. It is suggested under the new approach, that the exercise of renewal/purchase options should not be anticipated. It is recognised that in lease agreements with options, the lessee is paying for the right to use leased property and the right to exercise the option. It is recommended that where an option has significant value, it should be accounted for as a separate asset, distinct from the right to use leased asset. The value of the option might be determined by comparison with similar lease agreements without options. Under the new approach, it is proposed that if the minimum payments specified in leases with contingent rentals are clearly unrepresentative, an amount reflecting the fair value of property rights conveyed by the lease should be recognised. It is proposed that the fair value of property rights conveyed might be determined by comparison with a lease agreement without contingent rentals. The treatment of features to 'purchase more' thus appears equally inconsistent under the new approach. Further, the non-anticipation of renewal options provides the opportunity to minimise balance sheet obligations by entering lease agreements with shorter fixed terms.

The discussion paper contrasts rentals contingent on usage and those contingent on revenues/sales/market prices. The latter provides the lessee with an obligation to pay an uncertain amount for leasing an asset, rather than the option to purchase additional use. It is also suggested that comparison of lease agreements with and without contingent elements could be incorrect. If rentals are contingent on usage/sales/profits the asset is subject to restriction and consequently less valuable. Also, there is no obligation to incur additional use or to make sales/profits and thus to pay amounts higher than the fixed rental element. Further, it could be viewed that the contingency element is expense in relation to future operations and thus should be matched at the time corresponding revenue is recognised.

In respect of lease rentals that vary in line with prices, the discussion paper specifically considers the example of long-term commercial property leases in the UK. These leases are subject to periodic 'upward-only' rent reviews in which the rent is increased to current market rent if it is higher than previous rentals. The discussion paper suggests that the initial rent for a lease with rent reviews would be lower than a similar agreement without rent reviews. Under the new approach, it is proposed that the lessee should record assets and liabilities equal to the present value of its best estimate of rentals that will be payable[2]. Estimates would need to be reviewed at each balance sheet date irrespective of rent review dates. The alternative is to show only the contracted rentals as an asset and liability at the beginning of the lease term. This is consistent with the argument that until a rent review takes place, there is no liability to pay a higher amount. Even if there is a liability, it should not be recognised if it cannot be measured reliably. Obtaining reliable estimates of future market rents is not simply a matter of forecasting general trends of future property prices. The value of specific properties may differ extensively from general market conditions, and estimates will depend on the prices prevailing on various rent review dates.

An economic interest in the residual value of the leased item is conveyed to the lessee in certain leasing agreements. The lessee may, for example, guarantee the

[2] This approach is based on the view suggested in the McGregor (1996) report. The ASB supports only the recognition of existing rentals on the basis that it will not only be possible to make reliable estimates of rent increases.

residual value by compensating the lessor if it is below an agreed amount. Alternatively, the lessee may be entitled to a share in the sales proceeds. Under SSAP 21, residual value guaranteed by lessees are included in minimum lease payments to determine lease classification, and in the balance sheet if finance lease classification is met. Under the new approach, the initial amount recognised in the balance sheet would reflect the amounts the lessee is required to pay during the lease term and the fair value of the guarantee. The discussion paper highlights the difficulty in obtaining a 'fair value' for a residual value guarantee. However, it is suggested that a guarantee would affect the price of rental payments for the lease term. If the lessor is likely to significantly benefit from the residual value guarantee, this is likely to be reflected in lower rental payments. It is proposed that the fair value of a residual guarantee could be determined by comparison with a similar non-guaranteed lease, although the practical difficulties in doing so are acknowledged. An alternative suggestion is to adopt a provisions approach and include an amount relating to the residual value guarantee when payment is considered likely. This could be, for example, when the guarantee exceeds expected residual value. The fair value of a guarantee is likely to be less than the actual amount guaranteed, so under the new approach the amount recorded on the balance sheet would be less than under the finance lease capitalisation requirements of SSAP 21.

The accounting treatment in respect to the lessees' entitlement to share in sales proceeds does not appear to differ between the new approach and SSAP 21. It is proposed that the asset and liability based on the lessees obligation to pay be recorded on the balance sheet. The carrying amount of the asset less the estimated residual value is subsequently depreciated over the lease term.

The discussion paper also considers accounting for transactions in which the owner of an asset sells it and reacquires the right to use it by leasing it back. Under SSAP 21, the treatment of such a transaction depends on whether the leaseback is classed as a finance lease or an operating lease. In line with the general principles of the new approach, a liability would be recognised in respect of rental obligations, and an asset in terms of the right to use the item for the lease term. Any cash arising from sale in excess of the liability would be deemed as consideration for part of the

asset sold – the difference between legal ownership and the right to use the item for the lease term.

As part of the standard setting process, comments were requested on the discussion paper. Potential respondents were given from the issue date in December 1999 to the 7th April 2000 in order to voice their approval or disapproval and raise their concerns. More than two years on, the ASB is still considering the issues raised, and continuing to exchange views and information with other standard setters. The official line given on the ASB web-site (www.asb.org.uk) is as follows: 'Due to the complexity of the issues involved, it is expected to take some time to fully consider them. Therefore it is unlikely that a Financial Reporting Exposure Draft will be published in the near future'.

8.1.3 Published responses to proposed new approach

Several interested parties including members of the accountancy profession and the leasing industry have published their response to the ASB.

According to KPMG[3], although SSAP 21 is unattractive, the new approach appears to be replacing 'one set of arbitrary rules for another'. They suggest it is far too simplistic and would be exploited to leave most leased assets off the balance sheet. Their concern appears to be rooted in the new approach of including the fair value of residual value guarantees, and not to anticipate renewal options. They propose it makes sense to include the present value of minimum lease payments plus the amount guaranteed as required by SSAP 21. The lessee has all of the benefits and risks, and the residual liability at the end of the term would be discharged out of sales proceeds. KPMG illustrate their point with an example of a lessee entering a ten-year lease for an annual rental, with the right to terminate at any time. On termination the lessee must sell the item, retaining any profit or loss on disposal. KPMG suggest that this lease would be entirely off balance sheet under the new approach. However, if the lessee is retaining any loss on disposal, then it must surely have guaranteed a residual value to the lessor. The new approach would be to

[3] KPMG Financial Reporting Update, January/February 2000, www.KPMG.co.uk

record the fair value of the residual value guarantee, if practical, by a comparison of rentals with a standard ten-year lease without sales proceeds/cancellation options.

The UK Finance and Leasing Association (FLA)[4] are also concerned that finance lease balance sheet amounts will be lowered, by including the fair value of residual value guarantees in comparison to actual amounts guaranteed. However, their concern may be unfounded when including the actual amount guaranteed may result in overstating the obligation. The fair value of the guarantee is likely to be the difference between the actual amount guaranteed and the expected residual value of the asset. This would appear to be representative of rights and obligations conveyed by the lease, as long as the expected residual value of the asset is realistic. If the lessee is required to pay more than the balance sheet obligation at the end of the lease term, it is because of unanticipated changes in the second hand market value of the asset, or unanticipated additional use of the asset causing a decrease in value. Any obligation above the fair value of the guarantee could therefore be considered contingent. Under the new approach, true optional contingent rentals are not included if minimum lease payments are representative of rights and obligations conveyed by lease. The inclusion of fair value of residual value guarantee, rather than the actual value, appears thus to facilitate consistency in treatment.

Both the FLA and The Association of Corporate Treasurers[5] appear concerned that leases will be structured to minimise balance sheet obligations through renewal options. This could result in finance leases being partly removed from the balance sheet.

KPMG suggest that the ASB might take a lesson from FRS 5, in a new approach to lease accounting. They suggest reflecting the substance of leasing transactions by identifying all rights and obligations arising, and giving greater weight to those likely to have a practical commercial effect. According to the FLA, there is no radical case for change. They consider SSAP 21 to be fairly robust and widely understood. It is recognised that the true impact of operating leases, are not currently reflected in financial statements causing interpretation difficulties.

[4]Copy of draft letter sent to Sir David Tweedie by FLA, obtained from FLA
[5] Technical Hotline, April 2000, www.the-treasurer.co.uk

However, the FLA suggest the answer rests not in the proposed new approach, but in the improvement of SSAP 21. One option is to replace the 90% test with two tests of 75% or an agreement extended to three years or more. According to the FLA, compliance with one of these two tests would capture the vast majority of operating leases written in the UK. In order to meet a present value of 75% or below, the lessor would need to take on substantial residual value risk, which very few lessors would be willing to take in relation to many assets. Under this approach, only genuine operating leases would be exempt. The FLA readily acknowledges that their suggestion is practically rather than conceptually based. However, it can be related to determining the commercial substance of transactions under FRS 5.

PricewaterhouseCoopers[6] emphasise a change in the balance sheet, to show a collection of rights and obligations, under the new approach. They acknowledge that in many ways this provides a true reflection of modern businesses, although users may have difficulty in understanding more sophisticated information.

The consultation process to the discussion paper enables interested parties to contribute to the standard setting process. It is widely accepted that the ASB will take into consideration potential economic consequences when deciding appropriate accounting treatment. Zeff (1978) defined economic consequences to mean ' the impact of accounting reports on the decision-making behaviour of business, government, unions, investors and creditors'. He suggests that the resulting behaviour of particular interested parties could be detrimental to the interests of others. An indication of the potential behaviour of interested parties, if the new approach were adopted, may be obtained from the nature and strength of their views in the consultation process.

Not surprisingly, the FLA is concerned with the commercial impact of the new approach, mainly in relation to its members' business. In relation to commercial impact, the new approach is considered damaging to leasing in terms of competition with other sources of finance, as a result of the costs of implementation. In addition, off-balance sheet financing is acknowledged as a marketing advantage in some

[6] Quarterly briefing, March 2000, www.pwcglobal.com/uk.

cases. According to the FLA, the major costs of implementing the new approach lie in the requirement for advanced IT systems. Apparently, there is no software currently available in the UK, which would come close to assisting implementation. Training costs, management time and diverting attention from growing business are also of cause for concern. The FLA acknowledges that although the leasing industry will probably bear the brunt, individual lessees could also bear similar costs for similar reasons.

There appears to be widespread concern in respect of the impact the new approach would have in respect of UK commercial property leases. Under SSAP 21, property leases are currently classed as operating leases and are not reflected in the lessee's balance sheet. Under the new approach, the present value of minimum payments would be included in the balance sheet. Although, payments after break clause/renewal option dates can potentially be excluded if operational circumstances do not preclude exercise. Also, estimates of future rent increases would be included and subject to annual review. If lease property rentals are contingent on profits/turnover arising from operations, then comparison with a similar property lease would be necessary, in order to ensure the present value of minimum lease payments were representative of the rights and obligations conveyed by the lease.

According to Ringer and Unerman (2000), lessees will favour shorter, flexible terms, including regular break clauses under the new approach. In exchange for increased flexibility, high rents will arise to compensate lessors for the reduction in the security previously enjoyed by a long-term lease. This will naturally depend on the relative power of lessees/lessors in specific industry sectors/geographical regions. The Investment Property Forum (issue number 3, October 1999) predicts an increase in owner occupation. Under the new approach, the difference in balance sheet impact between leasing property and borrowing to purchase would be minimised. As the financing cost of leasing property is considered more expensive, owner occupation may seem more attractive. The risk of shorter property leases may reduce investment in property. However, if lessees have greater mobility through shorter lease terms, it may be easier to let newer and better-specified space. Speculative development might even become more attractive.

The responses considered in this section are biased towards the views and interests of both the accountancy profession and the leasing industry. Representation of individual financial statement users and preparers is necessary in order to be objective. The ASB has yet to publish an analysis of all the responses it received. However, full awareness of the exact details of the new approach, and the highly technical nature of the proposals, may have restricted the response received from these particular individuals. The present study goes half way to rectifying this situation by obtaining the views and opinions of a sample of UK finance directors in their capacity as account preparers.

8.1.4 A basis for evaluating lease accounting reform

According to Levitt (1998), a former chairman of the US Securities and Exchange Commission, users of financial statements need relevant and useful information to make decisions. This is what high quality accounting standards should deliver. The introduction of a high quality lease accounting standard must surely be at the heart of the ASB's consideration of a new approach. According to Levitt's perceptions of quality, the ASB should be thinking in terms of comparability, transparency, full disclosure, and accounting harmony on a global scale. Users should be able to undertake meaningful analysis across time periods, and across companies. As a result, investor confidence should increase, capital costs reduce, and both liquidity and the fairness of market prices improve.

The attributes of high quality accounting standards from alternative perspectives, were considered in six commentaries published in Accounting Horizons (volume 12, no1, 1998). The focus of the American Accounting Association's Financial Accounting Standards Committee (Linsmeier et al., 1998) is to enhance user's abilities to make investment and credit decisions. In order to do so, a quality accounting standard should address and correct a current deficiency in the financial reporting model, with the subsequent benefits exceeding the costs.

Smith (1998), on behalf of the accountancy profession, advocates the extent to which a proposed accounting standard changes practice, and the subsequent

implications. The requirement for useful information reflecting economic reality is stressed. Alternative treatment should be limited to ensure standardisation, and concept-based treatment is advocated to minimise opportunities for manipulation of rules.

The Association for Investment Management and Research (Knutson and Napolitano, 1998) favourably evaluate financial accounting standards that reflect economic substance. The use of 'bright line' distinctions between transactions is opposed. A single measurement and recognition basis is also advocated. New standards should improve information available to decision-makers, i.e. provide information not previously available to company outsiders.

Rogero (1998), on behalf of the Financial Reporting Committee of the Institute of Management Accountants, promotes the use of principles which are clear, understandable and operational. The provision of explanations, illustrations and examples of practical applications is suggested. The economics of underlying transactions and cost-benefit criterion are again highlighted.

The American Institute of Certified Public Accountants (Kaplan and Fender, 1998) also considers reporting the economic substance of transactions to be important. In addition, proposed accounting treatment should provide information useful to users in making resource-allocation decisions.

Wulff and Koski-Grofer (1998), from the perspective of corporate preparers, advocate transactions of similar substance to be accounted for in a consistent way. Accounting treatment should also be consistent on a global scale. A real need for change should be established by the rigorous and objective evaluation of the perceived deficiency of an existing standard. New proposals should prevent/minimise the deficiency of existing standards and the benefits of implementation outweigh real/economic costs to comply.

In summary, a high quality lease accounting standard should:

- address an established deficiency in existing accounting regulation
- improve decision-making by:
  - reporting economic substance/reality
  - increasing consistency/comparability by limiting accounting treatment alternatives, promoting a single accounting treatment, accounting for similar transactions in similar ways, and striving for global harmony
  - providing information not previously available
  - minimising manipulation of rules by adopting concept-based treatment
- be based on clear, understandable and operational principles
- be introduced on a cost-benefit basis

In terms of the above, how do the new proposals for lease accounting measure up? SSAP 21 does not provide for the recognition in the lessees' balance sheet of material assets and liabilities arising from operating leases. Under the new approach, assets and liabilities under all material lease agreements would be recognised on the balance sheet. Whether SSAP 21 is deficient, and whether the new approach subsequently corrects a deficiency, depends, however, on the impact operating lease capitalisation would have on decision-making.

All lease agreements provide lessees with assets and liabilities in terms of the right to use leased property for the duration of the lease term, in exchange for the obligation to make rental payments. Economic substance/reality would be reflected under the new approach, to bring the rights and obligations underlying all material lease agreements, onto the balance sheet. Under SSAP 21, the economic reality of leases failing to meet the 90% present value test may not be reflected. Under SSAP 21, the accounting treatment is radically different for finance lease and operating lease agreements. The new approach advocates the same accounting treatment for all material lease agreements. Under SSAP 21, it is possible to use the 90% present value test to account for essentially similar transactions in different ways. The new approach removes the distinction between finance leases and operating leases. However, the new approach may be considered inconsistent in relation to features extending asset use. Renewal options are not anticipated, whereas rentals contingent

on asset use are included, to the extent the fair value of rights and obligations conveyed are represented.

In relation to global harmony, SSAP 21 adopts a similar approach to International Accounting Standard IAS 17 and SFAS 13 in the US. However, operating disclosures in the UK are slightly less informative than in the US. The new approach is the product of a joint effort with standard setters in Australia, New Zealand, Canada, USA and the International Accounting Standards Committee. Global harmony would thus appear to be high on the ASB's agenda.

SSAP 21 requires operating lease obligations for the current year and next years' obligations to be disclosed. Next years obligations are divided according to when the obligation expires, between land and buildings and other assets. The new approach of including the capitalised value of operating lease obligations implicitly provides information concerning total lease life, precise remaining life and interest rates. However, it is necessary to determine the extent this information would affect decision-making in order to establish an improvement. It is suggested that SSAP 21 is open to manipulation by restructuring lease agreements to avoid finance lease capitalisation. The new approach advocates the capitalisation of all material lease agreements. However, the new approach, by not anticipating renewal options, could also be open to manipulation. Lease agreements may be restructured to include short fixed lease terms with the option of renewal, in order to minimise balance sheet obligations.

According to the FLA, the principles of SSAP 21 are widely understood. However, although the 90% present value test is relatively easy to apply, it is less clear how to determine if substantially all the risks and rewards of ownership have been transferred for a lease falling short. The new approach of recording the present value of minimum lease payments for all material leases on the balance sheet, in general, appears relatively clear. However, the recording of the fair value of rights and obligations conveyed if the present value of minimum rentals is unrepresentative, and the separation of the right to use the leased asset from the right to exercise options, adds complication. Further, the operational difficulties in obtaining the fair value of residual guarantees, and estimates of future rental

payments increasing in line with prices, is acknowledged by the ASB. The costs of implementation of the new approach are likely to be considerable according to the FLA, whereas the exact benefits appear difficult to quantify.

Prima facie, the new approach generally appears to measure up in terms of potentially addressing a current deficiency, reporting economic reality, consistency, and global harmonisation. In relation to specific features, such as renewal options, contingent rentals and residual value guarantees, proposals appear to be inconsistent, open to manipulation and difficult to operationalise. Inclusion of the proposed treatment for these specific features would not appear consistent with the development of a high quality lease accounting standard.

A review of existing empirical evidence is required in order to determine the extent SSAP 21 is deficient, the impact of operating lease capitalisation on decision-making, and the subsequent economic consequences. The views and opinions of the preparers surveyed in the present study will further assist in the evaluation of both SSAP 21 and the new approach, in terms of quality.

8.2: The consequences of lease accounting – prior research

According to Linsmeier et al. (1998), high quality accounting standards should be informed by, and be consistent with, the results of relevant research. They suggested that prior research has the potential to provide empirical evidence when determining if an existing deficiency is addressed, and if decision-making is improved, as a consequence of new accounting standards.

Under the new approach, the rights and obligations of all material lease agreements would be reported on the balance sheet. It is, thus, the intention that lease capitalisation be extended to include many agreements presently classed as off-balance sheet operating leases. The potential consequences of operating lease capitalisation stem from the impact on balance sheet performance indicators and stock market prices, potentially influencing decisions taken by interested parties, such as investors, analysts, and company management. In this context, prior research is considered in relation to the following questions: Does the current

accounting treatment of operating leases impair decision-making, and would the new approach improve it? It is only possible to predict the future consequences of operating lease capitalisation. However, a review of the findings in relation to the introduction of SSAP 21, provides a basis on which to formulate expectations.

Under SSAP21, operating lease obligations are disclosed in the notes to the accounts, capitalisation would increase both the assets and liabilities recognised on the balance sheet. The impact on decision-making depends on: the significance of operating leases obligations, whether obligations are perceived differently according to the alternative accounting treatment, and if capitalisation extends the information currently provided. Operating lease obligations, if perceived differently as a result of extended capitalisation, might be expected to impact on users' decisions and stock market prices. However, performance indicators might not be affected if reactionary steps are taken to minimise obligations, prior to the requirement to extend capitalisation.

To provide a coherent summary, prior research is organised in terms of:

- The impact of lease capitalisation on performance indicators
- Balance sheet recognition versus disclosure of lease accounting information
- Preparers' response to lease accounting regulation

8.2.1 The impact of lease capitalisation on performance indicators

The impact operating lease capitalisation might have on performance indicators is instrumental in determining the subsequent impact on decision-making. If the change in performance indicators is insignificant, the present treatment cannot be said to impair decision-making, or the new approach said to improve it.

Prior to the introduction of SSAP 21, Ashton (1985) tested whether finance lease capitalisation would influence the financial performance indicators of 23 UK companies. The only significant change, as a result of finance lease capitalisation, was an increase in financial gearing. A high degree of variability in most performance measures indicated a diverse effect of capitalisation on individual

companies. However, a high degree of correlation was found between performance measures before and after finance lease capitalisation. Comparisons made across companies were, thus, unlikely to be affected. However, it cannot be dismissed that Ashton's findings are based on a relatively small sample size.

Beattie, Edwards and Goodacre (1998) followed a process of constructive capitalisation using operating lease disclosures, in order to determine the impact on accounting ratios. Operating lease capitalisation was found to have a significant influence on the performance indicators of 232 UK companies for 1994. The impact was especially significant in relation to measures of financial gearing, and for companies operating within certain industries, particularly in the service sector. For example, the gearing ratio (net debt to equity) increased from 20% to 72% for the entire sample, and from 24% to 141% in the service sector. Dresdner Kleinwort Benson (1998) and Goodacre (2001) confirmed these findings, in separate studies, using samples of firms specifically operating in the retail sector. Their findings are hardly surprising given the significance of off-balance sheet operating leases. Beattie et al. (1998) expressed both operating and finance lease obligations due within one year, as a percentage of total assets (to control for firm size differences) for 2288 UK companies, spanning 37 industries, for 1994. In total, lease payments amounted to 0.76% of total assets, with only 0.04% derived from finance leases. The remaining 0.72% arising from operating leases provides convincing evidence as to the significance of operating lease obligations.

Findings in the UK appear consistent with the situation in the US. Imhoff, Lipe and Wright (1991) applied a constructive capitalisation process to a sample of seven pairs of firms operating in different industries in 1987. Results were consistent with the premise that key financial statement ratios are affected by operating lease capitalisation.

On balance, the evidence appears to suggest that the new approach to extend lease capitalisation would have a significant impact on measures of performance. Thus, the current treatment has the potential to impair decision-making, and the new approach the potential to improve it. However, this depends on whether decision-

makers are influenced by alternative accounting treatments, and/or if capitalisation extends the information currently provided.

8.2.2 Recognition versus disclosure of lease accounting information

If users of financial statements do not take disclosed operating lease obligations into account, or the full implication of such obligations cannot be appreciated from footnote disclosures, then decision-making is potentially impaired. The extent off-balance sheet lease obligations are taken into account, has been investigated for both individual users, and aggregate users through capital market's assessments of equity risk.

Recognition versus disclosure – individual users[7]

The impact of recognition versus disclosure of lease obligations, on individual financial statement users, has been previously investigated using an experimental / survey approach. Investment analysts / managers and lenders have been presented with hypothetical financial statements, differing in the presentation of lease information (Wilkins and Zimmer, 1983a; Munter and Radcliffe, 1983; Wilkins and Zimmer, 1983b; Wilkins, 1984). Lenders and borrowers have also been surveyed (Gopalakrishnan and Parkash, 1996).

Wilkins and Zimmer (1983a) found share valuations by analysts to be unaffected by the recognition versus disclosure of lease accounting information. However, alternative accounting treatment did appear to influence earning predictions, which is suggested may rely more heavily on accounting information. Munter and Radcliffe (1983) found a preference by investment managers for firms that restricted capitalisation to finance leases, in comparison to firms capitalising all leases. In relation to other financial statement users, Wilkins and Zimmer (1983b) and Wilkins (1984) found that loan officers appeared to take footnote disclosures into account when performing credit evaluations. In contrast, Gopalakrishnan and Parkash (1996) found the perceptions of both borrowers and lenders to differ

[7] Prior research is described in more detail in Chapter 13

according to the balance sheet recognition or footnote disclosure of lease obligations.

On balance, prior evidence appears to suggest that individual users may not always take account of lease obligations disclosed in the notes to the accounts. Obligations recognised on the balance sheet appear to attract more attention. The new approach to extend lease obligations reported on the balance sheet, thus, has the potential to impact on individual decision-making.

The inclusion of lease disclosures in capital markets' assessments of equity risk

The final part to this thesis addresses the question of operating lease recognition in the UK market's assessment of equity risk. Prior to this study, the situation in the UK had not been addressed. In the US, Bowman (1980) examined the relationship between market risk and the present value of finance leases reported to the SEC under ASR-147 prior to SFAS 13 requiring finance lease capitalisation. Finance leases were found to make a significant contribution to the association tests on market risk. Three studies have specifically tested whether operating lease obligations are recognised by the US (Imhoff, Lipe and Wright, 1993; Ely, 1995) and Australian (Imhoff and Gallery, 1998) markets. This research is described in detail in chapter 13.

In short, regression analysis has been employed to determine whether the explanatory power of a model, essentially expressing the variation in market returns, is improved when operating lease obligations are taken into account. Adjustments were made to financial risk by both constructively capitalising operating lease obligations, and with the use of an ad hoc adjustment (factor method). Imhoff, Lipe and Wright (1993) focused on firms within similar industries to control for cross-sectional variation in business risk. Ely (1995) conducted an analysis across industries by explicitly controlling for cross-sectional variation in business risk. Imhoff et al. and Ely both concluded that US investors/analysts did appear to make use of 'off-balance sheet' operating lease disclosures when assessing a firm's risk. However, Imhoff et al. found an ad hoc adjustment, rather than a constructive capitalisation method, to provide better explanation. Ely found no significant difference between either of the operating lease adjustment methods

employed. In contrast to US evidence, Imhoff and Gallery (1998) found no evidence to suggest that Australian market participants adjust firm risk in recognition of operating lease disclosures, irrespective of the method of lease evaluation used.

The study presented in the final part to this thesis closely followed the methodology employed by Ely (1995). OLS regression analysis was used to examine the relationship between equity risk, operating / asset risk, financial risk, and an adjustment to financial risk for operating lease liability. Estimates of total operating lease liability were obtained from the process of constructive capitalisation undertaken by Beattie et al. (1998), and by a rental based method. Findings appear to suggest that the UK investors/analysts currently recognise operating leases in their assessments of equity risk, by a method of capitalisation. A rental-based (factor) method does not appear to be employed.

In summary, evidence from the US and UK implies that operating lease obligations, disclosed in footnotes to the accounts, are taken into account. In the US, the method of doing so appears unclear. In the UK, following a process of capitalisation appears more likely. However, the accuracy of this process remains unclear.

The extent to which the full implication of operating lease obligations can be appreciated from footnote disclosures is not conclusive. Although, the evidence appears to suggest operating leases are not ignored, awareness of the full implications requires (at least implicitly) an accurate estimate of the capitalised value of operating lease rental obligations. It would appear necessary to compare capitalisation using the precise details of operating lease contracts, with the capitalisation processes currently undertaken, to establish if this is indeed the case. In the absence of this approach, studies of the market reaction to finance lease capitalisation provide an indication of whether the full implications of finance lease obligations were appreciated prior to SSAP 21. In addition, consideration of the operating lease capitalisation processes currently undertaken might provide some indication as to the ease and accuracy with which it can be achieved.

Market reaction to finance lease capitalisation

In the US, Ro (1978) empirically examined whether the SEC's decision to require finance lease capitalisation had any impact on the pricing of securities. Findings suggest that capitalised lease disclosures had a negative effect on security prices, especially for firms disclosing both income and balance sheet effects of capitalisation, and exhibiting high levels of risk. Martin, Anderson and Keown (1979) found the impact of lease capitalisation on security prices to be insignificant. In addition, capitalisation did not appear to alter the systematic risk attached to individual securities. Finnerty, Fitzsimmons and Oliver (1980) also found no significant change in the systematic risk of a sample of companies, pre and post various landmarks in the development of US finance lease capitalisation regulation.

In contrast, Cheung (1980) found a significant change in the systematic risk attached to firms during the period when lease capitalisation became mandatory. However, the change observed involved a decline in lessee firms' systematic risk. Cheung offered two possible explanations for his results. First, he noted that despite being statistically significant, results were obtained from a regression model exhibiting rather low R^2 values, implying no change in systematic risk was possible. Second, he suggested that qualitative lease information, prior to capitalisation requirements, might have been available from alternative sources. This information may have caused the over estimation of a lessee firm's relative risk. The observed decline being the response to information accurately quantified by capitalisation. The findings by Bowman (1980) add credence to such a suggestion. Bowman found the US market to have already impounded certain lease information that was publicly available prior to formal disclosure being made mandatory.

Research in relation to UK market reaction to finance lease capitalisation is limited. In 1989, Garrod investigated security prices for periods before and after the adoption of SSAP 21. Positive cumulative returns, previously enjoyed by non-disclosing firms, appeared to be eliminated as SSAP 21 better enabled the market to assess the risk of investing in them. However, the size and significance of market reaction to SSAP 21 appeared of little consequence. This might have been expected if UK firms exhibited a high level of voluntary disclosure prior to SSAP 21. In fact,

this does not appear to have been the case. Rutterman and Daley (1985) documented a poor level of disclosure when reviewing lease reporting by UK firms. Whilst SSAP 21 was not mandatory until 1987, its concepts and disclosures were widely promoted in the exposure draft ED29 issued in 1981. Rutterman and Daley noted that numerous lessees appeared not only to ignore the Companies Act requirement to disclose financial commitments in relation to leasing, but also to escape any subsequent wrath from their auditors. It was anticipated that mandatory compliance with SSAP 21 would mean an alteration to existing practice and thus likely to be of significant consequence. Anticipation not realised in light of Garrod's evidence.

In the US, footnote disclosure was mandatory prior to regulation requiring finance lease capitalisation. Since operating lease footnote disclosures are currently in force, the present UK situation regarding future operating lease capitalisation could be considered somewhat comparable. The evidence of US market reaction to finance lease capitalisation is mixed. However, it appears that operating lease capitalisation has the potential to cause market reaction, if the information currently available results in either an over / under estimate of firm risk. The new approach providing accurate assessments, thus, has the potential to impact decision-making.

The constructive capitalisation of operating leases

Knowledge of the present value of future operating lease rentals is required, in order to establish the balance sheet impact. In the absence of firms voluntarily disclosing such information, operating lease capitalisation requires estimation. In order to estimate operating lease liability, information is needed regarding rental payment amounts, the number of payments outstanding, and the interest rate implicit in the lease agreement. Furthermore, the duration of operating lease agreements is required, in order to establish the corresponding written down value of the leased asset.

Houlihan and Sondhi (1984) discussed capitalisation methods based on the US operating lease disclosure requirements. SFAS 13 requires lessees to disclose operating lease rentals for the year, the minimum rentals for each of the next five years, and the total minimum rentals to be made beyond year five. Houlihan and Sondhi indicated that to capitalise these obligations, assumptions of lease terms and

annual payments required after the fifth year, would need to be made. The use of an arbitrary interest rate of 10%, or the yield on a current public debt issue, was suggested. It is also necessary to assume that all lease payments after the fifth year would equal the amount paid in the fifth year, in order to estimate the present value of future lease payments. As an alternative, a method that involves multiplying the annual lease rental expense by a factor might be employed. It is suggested that US analysts may far more commonly employ the factor method in practice.

Dresdner Kleinwort Benson (1998) note that the factor method is also one approach used by UK credit analysts and leasing experts to obtain a rough approximation of the total liabilities to which an annual operating lease rental obligation would equate. It is suggested that multiplying the operating lease rental by 8 is equal to discounting a constant rental charge at a rate of 8.5% over a 14 year period. However, to obtain the full implications of operating lease obligations from footnote disclosures requires an accurate estimate of capitalised value. A rough approximation may not reveal the full implications.

Previous researchers as far back as 1959 have noted the over-estimation of lease obligations, by the factor method (Gant 1959; Axelson 1971). Houlihan and Sondhi (1984) suggested that the problem has magnified over time. It could be detrimental to lessees by making them appear far more leveraged than they actually are. This is perhaps why Cheung (1980) observed a decline in lessee firms' systematic risk in response to finance lease capitalisation. Dresdner Kleinwort Benson (1998) indicated that under-estimation as well as over-estimation might be a problem. The accuracy of the 'factor 8' method was questioned, when a range of factor values from 6.9 to 10.2 were identified for leases maturing between 10 to 20 years. However, the suggested inadequacies of the factor method may not be relevant to all users. The evidence provided in the final part to this thesis implies that operating lease adjustments are more likely to be the product of a constructive capitalisation process.

The presence of material long-term non-cancellable operating leases within many US firms encouraged Imhoff, Lipe and Wright (1991) to develop a method of constructive capitalisation. Future minimum operating lease rental payments for

each of the next five years were available from footnotes to the annual reports. An assumption of the remaining life of leased assets was required in order to estimate the present value of payments due in more than five years. Based on the financial statements of McDonalds corporation, Imhoff et al. argued for an assumption of 15 years, and thus divided the amount disclosed in the over five year category by 10 to determine an assumed constant annual amount to be discounted. An appropriate discount rate was suggested as 'the average of the historical marginal secured borrowing rates of a company at the inception of the operating leases weighted by the relative size of each lease in comparison to all operating leases'. It is suggested that this rate is proxied by the average historical interest rate for reported secured long-term debt, estimated from the respective footnotes to company accounts. In the McDonalds illustration, the historical rate averaged about 9%, but a discount of 10% was employed as a more conservative measure. The total present value of operating lease rentals could thus be estimated for inclusion in company accounts.

As a limited test of the reasonableness of assumptions, Imhoff et al. were fortunate to identify a company (Pillsbury) which voluntarily disclosed the present value of minimum future operating lease commitments. A difference of approximately 4% was identified between the estimated and actual present value. It was concluded that errors in the estimation of operating lease liability using the method of constructively capitalisation would generally be less than 5%. However, the test company, Pillsbury, is the parent company of Burger King, and thus likely to have similar characteristics to McDonalds. Consequently, the validity of the assumptions for other firms remains unclear.

Inhoff et al.'s mechanism for establishing the corresponding leased asset assumed a straight-line depreciation method. At the inception of the lease, the capitalised asset and liability are both recorded as the present value of future lease payments. At the end, both are written down to zero. The operating leased asset's written down value is calculated as a percentage of the remaining operating lease liability, using a formula based on estimates of remaining and total lease life. It was noted that during the lease term, the asset balance would always be lower than the liability balance. The asset balance is reducing on a straight-line, whereas the liability is

reducing by the capital element of rental payments. Earlier rentals contain a greater interest element, compared to later payments repaying mostly capital.

The capitalisation of operating leases also affects the profit and loss account. Although the amount of tax actually paid remains unaltered, the tax charged is altered through the system of deferred tax. Operating lease rentals expensed in the profit and loss account are replaced by the interest element/financing charge of the rentals and depreciation. If the lease is in the early stages of its life, the higher interest charge together with depreciation will exceed the operating lease rental, and thus reduce profit. In the later stages, the opposite is true.

Beattie, Edwards and Goodacre (1998) adapted the capitalisation process described above for UK operating lease disclosures. In the UK, only next year's operating lease obligations are required to be disclosed, compared to total rental obligations in the US. Some firms voluntarily exceeding minimum disclosure requirements, or disclosing additional information as a result of their quotation on the US stock exchange, assisted the process. On the basis of evidence from thirteen firms, the average remaining life of operating leases due to expire between one and five years was estimated at three years for both land and buildings and other assets. For the over five-year category, sixteen and seven years were employed respectively. The remaining life for leases due to expire within one year could obviously not exceed one year. Based on an investigation of short-term borrowing rates over the period 1981 to 1994, an interest rate of 10% was adopted. The operating lease liability could, therefore be estimated, by discounting next year's operating lease obligations at 10% according to the respective remaining life of each portion of the obligation.

It was recognised that a global assumption of lease lives could significantly distort capitalisation estimates for firms entering into much shorter or longer operating lease agreements. Firm specific average remaining and total lease lives were therefore employed. Average remaining lives were calculated by weighting the remaining life global estimates by the total amount of operating lease obligation, disclosed in each expiration category for each asset type over the study period (1981 to 1994). Average total lease lives were determined in the same way using the following estimates for each expiration category. For the over five-year category,

the total lease life was estimated at twenty-five years for land and buildings, and 10 years for other assets, based on the most likely periods for such assets. Estimates for the less than one year category and for the one to five year category, for both types of asset, were assumed to be one and five years respectively. This assumption ignores long operating lease agreements that have a small, unexpired portion of life left. For example, obligations in the one to five year category could relate to a twenty-five year lease agreement which had expired twenty years. However, if twenty-five years is the typical life span of a company's lease agreements, then the majority of obligations disclosed over time should be contained in the over five year category. The average total life would, therefore, be weighted approximately to twenty-five years. The weighted average total and remaining life were included in the formula suggested by Imhoff et al. to calculate the percentage remaining operating lease liability to the assets written down value.

Beattie et al. used the operating lease capitalisation adjustments to examine the impact on financial statement ratios. Alternative assumptions concerning interest rates and estimates of total and remaining lives were adopted, but the difference to initial results was insignificant. This might suggest that the use of approximations for interest rates and remaining and total lease lives does not impact on the appreciation of the implication of operating lease obligations. However, the ease with which such a process is undertaken is questionable. Less sophisticated users are unlikely to be familiar with the terms of lease agreements, never mind the precise adjustments required to financial statements. A degree of appreciation of operating lease obligations may, however, be realised through the market pricing of securities. Beattie et al. considered operating lease obligations for each firm over a period of fourteen years. Is it realistic to assume either individual users or the capital market would have the ability or the inclination to do the same? The accuracy of operating lease capitalisation adjustments may also be questioned in terms of the interest rate used to discount rental obligations. Although alternative interest rates were employed, the same rate was applied across all firms, for all asset types, and for all durations. In reality, interest rates implicit in lease agreements are tailored according to the standing of individual lessee's, the nature of the asset and the duration of the agreement. The interest rate will thus reflect a combination of credit risk, new or existing business, asset risk and the duration for which the

lessor's income is guaranteed. Therefore, interest rates are not only likely to differ across firms, but also between individual agreements held by the same firm. Applying a blanket rate in the operating lease capitalisation process may potentially produce a far from accurate estimate.

In summary, it does not appear possible to appreciate the full implications of operating lease obligations from footnote disclosures in all situations. Under the new approach, the differences between individual lease contracts would be accurately reflected in balance sheet amounts. The new approach thus has the potential to extend the information currently provided. The extent to which it does so still remains to be seen.

8.2.3 Preparers' response to lease accounting regulation

The decision-making by preparers of financial statements could be influenced if operating lease capitalisation is perceived to be of consequence. In anticipation of regulation making the new approach mandatory, reactionary steps might be taken to minimise lease obligations. An indication of the likelihood of such behaviour may be obtained from the behaviour observed in relation to finance lease capitalisation, and the views and opinions of preparers in respect of lease accounting regulation.

Preparers' response to the introduction of finance lease capitalisation

Imhoff and Thomas (1988) employed regression methodology to investigate capital structure changes made by US firms in response to regulation requiring finance lease capitalisation. Firms were observed to be replacing finance leases with off-balance sheet operating leases and other sources of non-leasing finance, in addition to reducing levels of leverage. Godfrey and Warren (1995) followed a similar approach in response to Australian accounting regulation. Findings suggest that firms responded by reducing their reliance on finance leasing, and increasing their reliance upon non-leasing debt and shareholders funds. In contrast to US firms, Australian firms did not appear to have classified leases as operating leases to avoid capitalisation.

In the UK, Garrod (1989) investigated whether debt levels remained constant pre and post the introduction of SSAP 21. The debt levels of firms who voluntarily disclosed lease information prior to SSAP 21 were found to be increasing. However, the debt levels of other firms with leasing obligations did not appear to increase prior to the first forced disclosure. Garrod concluded that forced disclosure via SSAP 21 had caused preparers to reassess levels of all alternative forms of debt, in order to lessen the impact. However, the observed difference in behaviour between voluntary and forced disclosures could equally reflect differences in debt capacities across firms, an aspect that Garrod failed to control for.

Loveday (1995) reported that, despite increased compliance with SSAP 21, detailed disclosure of lease classification and of capitalisation methods adopted, seemed to be lacking. The potential to avoid lease capitalisation by the careful drafting of lease contracts to avoid the 90% present value test was also highlighted. Further, the predominant and prolific use of operating leases in recent years (Beattie et al., 1998) may partly reflect lessee's perceptions of the consequences of capitalised lease obligations.

Preparers' views and opinions of lease accounting regulation

The views and opinions of preparers to lease accounting regulation have previously been investigated by survey. Although views and opinions do not necessarily reflect behaviour, they might at least be expected to influence it. They can also be specifically obtained in relation to the issue in question. Prior studies investigating behaviour in response to lease accounting regulation may potentially be capturing behaviour in response to other, less obvious events. Also, obtaining views and opinions are the only indication available, in anticipation of the actual behaviour in response to operating lease capitalisation.

Prior surveys focusing on lease accounting regulation are extremely limited. However, the likelihood of avoiding finance lease capitalisation by restructuring to operating leases, has been confirmed by UK surveys investigating the determinants of leasing (Fawthrop and Terry, 1975; Drury and Braund, 1990). In the US, Abdel-Khalik (1981) identified a similar situation. Preparers were also found to respond

negatively to suggestions of accounting regulation requiring the capitalisation of all non-cancellable leases, whereas users appeared in support.

In the UK, Taylor and Turley (1985) investigated the opinions of company management on accounting for lease agreements by lessees. The opinions of 198 of the Times 1000 firms in 1982-1983 (response rate 39.6%) were obtained by postal questionnaire. The time period of the study followed the publication of the exposure draft ED29, and was prior to the subsequent standard SSAP 21. A summary of the questions asked in relation to lease accounting regulation and the responses provided is shown in Table 8.1.

The requirement of finance lease capitalisation received support from 64% of respondents, despite 50% being in favour of the possibility that future contracts would be structured so as to avoid it. Approximately a quarter of respondents agreed that investment and finance decisions would be affected as a result of finance lease capitalisation. This is an indication of the reactionary steps at least some firms might be prepared to take in order to minimise operating lease balance sheet obligations. The vast majority of respondents appeared to acknowledge that finance lease capitalisation would improve decision-making for users when comparing and evaluating financial statements. However, it was also perceived that users would subsequently increase their estimates of the risk of investing in lessee companies. Reactionary steps look likely if preparers perceive the need to prevent this from being the case in relation to operating leases.

8.2.4 Summary

In summary, prior research indicates that operating leases appear to be an extensively used source of off-balance sheet financing across UK firms. Capitalising operating lease obligations on the balance sheet would appear to have significant impact on reported measures of performance. Although, off-balance sheet disclosures do not appear to be currently ignored, capitalisation appears likely to focus the attention of certain individual users. Capitalisation also appears likely to provide accurate information, which other individual users, or the market in general, may not at present be able to fully appreciate. SSAP 21 thus appears to have the potential to impair decision-making, and the new approach of extending

Table 8.1: A summary of the lease accounting issues explored, questions asked and responses provided in Taylor and Turley's (1985) survey

Issue explored	Abbreviated question	Response (%)				
		SA	A	U	D	SD[1]
Opinions on accounting standards	Accounting standards are an undesirable and unnecessary intrusion into company activities	1	33	5	8	33
	Accounting standards are desirable and impose no significant burden on companies	3	25	7	57	8
	Accounting standards are desirable but do impose a significant burden on companies	12	57	6	24	1
		SS	S	U	A	SA[2]
Opinions on accounting for leases	The capitalised value of both operating and finance leases to be shown in the lessee's balance sheet	1	13	8	54	24
	The capitalised value of finance leases only to be shown in the lessee's balance sheet	15	49	4	28	4
	Disclosure in a note to the accounts of lease commitments and the value of leased assets, without capitalisation in the balance sheet	16	31	8	40	5
	Disclosure in a note to the accounts of the amount and timing of future cash flow commitments for all leases	10	50	9	27	4
	Analysis of lease commitments by type of asset	3	44	13	32	8
	A transition period during which capitalisation would only be required for new leases taken out	4	18	7	57	14
	Application of the standard to new and existing leases from the date of implementation of the standard	10	53	9	22	6
		AGREE			DISAGREE	
Adverse economic consequences	Companies' borrowing limits	6			8	
	Attractiveness of leasing via rate of return on capital	4			10	
	Tax treatment of capital allowances on leased assets	5			5	

[1]SA - strongly agree, A - agree, U - uncertain, D - disagree, SD - Strongly disagree

[2]SS - strongly support, S - support, U - uncertain, A - against, SA - Strongly against

Table 8.1 continued

Issue explored	Abbreviated question	Response (%)				
		SA	A	U	D	SD[1]
Effects of lease capitalisation on management decision-making	Existing lease contracts would be renegotiated	1	15	27	44	13
	New lease contracts would be structured in a way which did not require capitalisation	8	42	18	25	7
	There would be an additional administrative burden on companies	20	53	11	13	3
	There would be a reduction in discretionary expenses in order to compensate for increased expenses through lease capitalisation	0	2	25	61	12
	Leasing would become less attractive as a source of finance	8	33	12	39	8
	The volume of lease finance would remain unaffected	5	37	24	30	4
	Some investments would not be undertaken	0	24	18	49	9
	New assets would be purchased or constructed rather than leased	3	22	21	46	8
	There would be an increase in the issue of shares	0	9	29	44	18
	Retained earnings would increase	2	23	24	43	8
	Debentures and other forms of debt would be utilised rather than lease arrangements	2	20	29	40	9
		SA	A	U	D	SD[1]
Effects of lease capitalisation on users' decisions	Lease capitalisation would improve users' ability to make comparisons	18	67	6	8	1
	Lease capitalisation would improve users' evaluation of the level of long term financial commitment to lessee companies	19	69	4	6	2
	Users would increase their estimates of the risks involved in providing finance to lessee companies	4	52	25	18	1
	Lease capitalisation would improve users' ability to predict operating cash flows of lessee companies	1	53	18	25	3
	Lease capitalisation would have no effect on users' assessments of the debt paying ability of lessee companies	2	26	23	43	6
	Lease capitalisation would result in a reduction in the credit ratings of companies	3	30	38	26	3
	Shareholders would reduce their estimates of lessee companies' ability to pay dividends in the future	1	15	27	54	3

[1]SA - strongly agree, A - agree, U - uncertain, D - disagree, SD - Strongly disagree

capitalisation, the potential to improve it. If preparers perceive this to be the case, the new approach also has the potential to affect their decision-making. On the basis of prior research, the action of preparers at the very least may involve attempts to minimise lease obligations through loopholes in the new proposals. However, reactionary behaviour in terms of reduced investment and the use of alternative sources of finance cannot be totally dismissed.

It is only possible to predict the behaviour of financial statement preparers in response to future lease accounting regulation. However, future behaviour might be expected to be influenced by the current views and opinions held in relation to lease accounting reform. Given that the new approach could potentially alter the role of leasing in UK corporate financing decisions, obtaining these views and opinions is considered somewhat crucial. In response, the present study surveyed UK finance directors to obtain their reaction to the proposals for lease accounting reform. The timing of the present study enables the findings to be of use during the standard setting process.

Chapter 9: Method used to investigate preparer's views on lease accounting reform

9.1: General approach

A questionnaire was used to obtain financial statement preparer's views on lease accounting reform. The complexity, technical nature and scope of the current lease accounting standard and the new proposals was not conducive to the use of face-to-face or telephone delivery. A mail survey was used in order to obtain the views of a large representative sample.

The methodology and procedures adopted in the present study were consistently applied across both of the survey investigations presented in this thesis. To avoid replication, a detailed discussion is provided in Chapter 4. The purpose of the present chapter is, therefore, mainly to describe the survey instrument used to obtain views on lease accounting reform. The sample selection and mailing list construction processes are specifically described in Section 4.3 of Chapter 4. The final sample used in the present study comprised 415 UK quoted industrial companies.

9.2: Survey instrument

9.2.1 Content development

The content of the questionnaire was derived after a review of the discussion paper 'Leases: Implementation of a New Approach', (ASB, 1999), and several published responses from interested parties. A lessee perspective was adopted because it is their views that are under investigation.

The present lease accounting standard – SSAP 21, and the general principles and specific issues put forward in the new proposals formed a framework. A previous survey on accounting for leases by lessees (Taylor and Turley, 1985) was analysed in detail to assist in the development of questions. However, questions specifically relating to the new proposals were developed from scratch. The questionnaire underwent several re-drafting stages in which the wording of questions was modified and the ordering of questions considered. A decision was taken not to

investigate all of the specific issues raised in the discussion paper, due to the risk of adversely affecting response rate with an increasingly lengthy questionnaire. The content of the questionnaire was, therefore, not exhaustive. It was designed to address the major issues in addition to certain issues identified as possibly contentious.

9.2.2 Pilot testing

After progressing through several draft forms, the questionnaire was formally tested in the pilot study. It was mailed to the finance directors of 10 randomly selected UK quoted industrial companies in May 2000. Contacts at the Accounting Standards Board and The Finance and Leasing Association were also mailed, along with a professor of accounting in The Department of Accounting, Finance and Law. The pilot testing followed the same procedures adopted for the corporate finance and leasing decisions questionnaire (Section 4.4.2, Chapter 4). The present questionnaire was accompanied by a covering letter (Appendix 23) and the set of pilot testing questions (Appendix 2). A summary of the new proposals for lease accounting (Appendix 24) was also included, in case the full implications had not, as yet, been brought to the attention of potential respondents.

The response to the pilot testing is summarised in Table 9.1. One out of the ten finance directors answered some of the pilot questions. The professor of accounting also completed the pilot questions, as did the contact at the Accounting Standards Board. The feedback from these three sources is summarised in Table 9.2. The general comments did not appear to raise any cause for concern, and participants did not significantly raise any specific issues in relation to the questionnaire content.

9.2.3 Final Version

The final version of the questionnaire comprised 6 pages of questions divided into five sections (Appendix 25). Back to back printing was used, and it was professionally produced in a booklet form with the outer cover coloured yellow. Contact details and notes concerning the questionnaire were given on the front cover. The vast majority of questions were close-ended requiring a choice of answer from a rating scale. A five point rating scale was adopted with categories in ascending order, ranging from 1 – strongly disagree to 5 – strongly agree. A 'don't

know' option was provided, given the technical nature and complexity of the questionnaire content.

Table 9.1: A summary of the response to pilot testing

Persons mailed	Company/Organisation	Nature of response
Professor of Accountancy	Department of Accounting, Finance & Law	Completed pilot questions
Contact	Accounting Standards Board	Completed pilot questions
Head of Asset Finance	The Finance and Leasing Association	No suggestions for any draft changes
Finance Directors	UK quoted industrial companies	One company: Attempted pilot questions Two companies: Unable to contact by telephone so no confirmation of non-participation Seven companies: Non-participation on the basis of: -PA failed to pass on questionnaire -Not available -Received but not participating (x2) -On leave (x2) -Pressure of work precludes completion

Table 9.2: A summary of the general feedback from pilot testing questions

Question Area	Comments received
Subject matter	"Positive" "Delighted" "Boring"
Length	"Too long" "Initial impression daunting given length and small typeface, but once started to filling in - it is very user-friendly, completed in 15 minutes"
Format/Layout	"User friendly" "Looks good" "Suggest strongly agree headings put at the top of each page and drop descriptions of what each column represents from questions"
Instructions for Completion	"Clear" "OK"
Ordering of questions	"Fine" "OK"

A summary of the questions asked is shown in Table 9.3. The area of investigation and the source of the questions are shown in Table 9.4.

Table 9.3: Summary of lease accounting questions

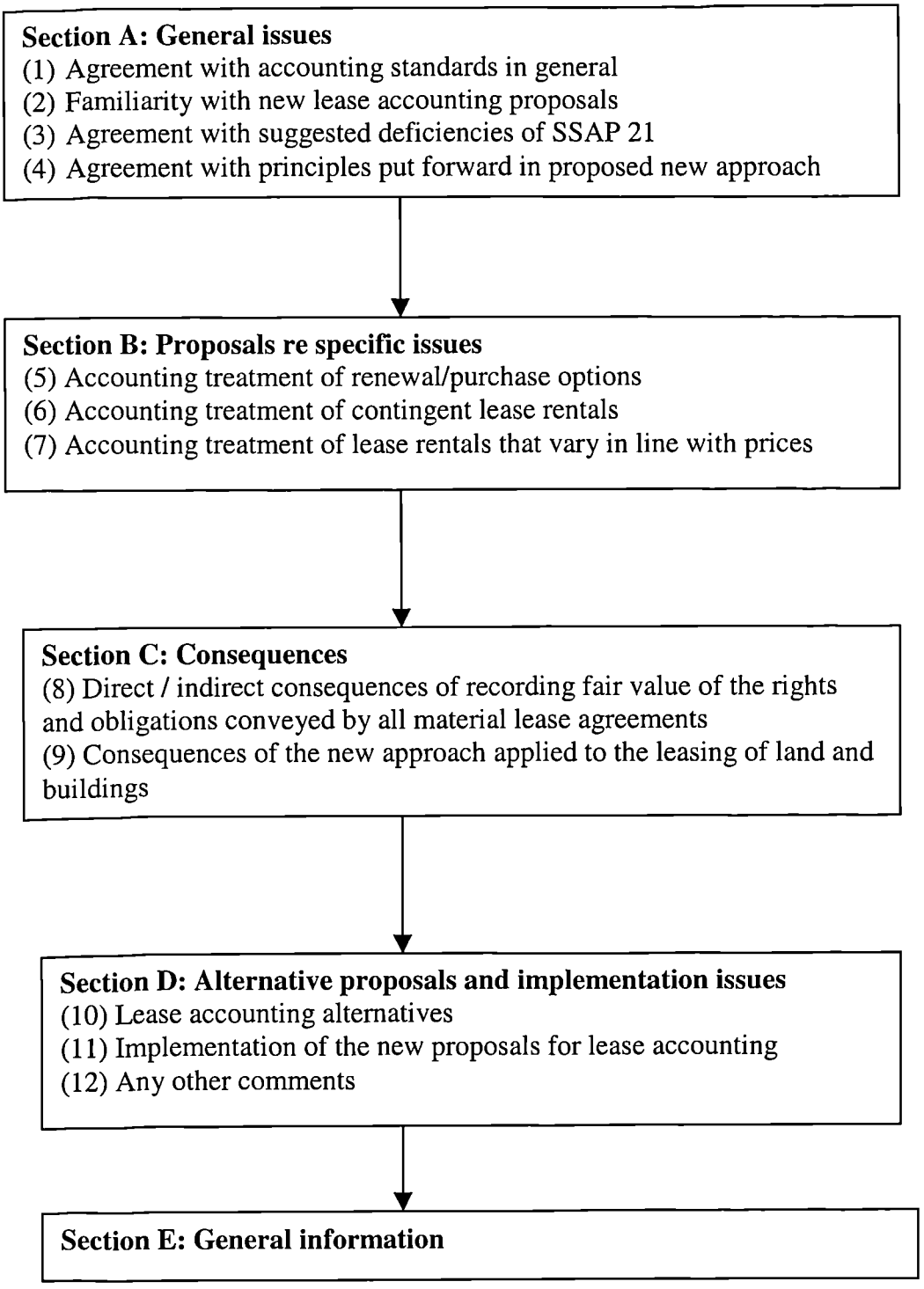


Table 9.4: Area of investigation and source of lease accounting questions

Question	Area of investigation	Source
1	Opinion on accounting standards	Taylor and Turley, 1985, qu 1
2	Familiarity with new proposals	
3	Opinions of suggested deficiencies of SSAP 21	Discussion Paper (ASB, 1999), Taylor and Turley, 1985, qu 5
4	Opinions of general approach taken in new proposals	Discussion Paper (ASB, 1999)
5	Opinions on accounting for renewal / purchase options	Discussion Paper (ASB, 1999)
6	Opinions on accounting for contingent rentals	Discussion Paper (ASB, 1999)
7	Opinions on accounting for rentals that vary in line with prices	Discussion Paper (ASB, 1999)
8	Opinions on the consequences of new proposals	Discussion Paper (ASB, 1999), Taylor and Turley, 1985, qu 4 & 5, Price Waterhouse response, FLA & BVRLA response
9	Opinions on the consequences of new proposals in respect to leased property	Discussion Paper (ASB, 1999), Various responses
10	Opinions on recognition versus disclosure	Taylor & Turley, 1985, qu 3; FLA response
11	Opinions on implementation of a new lease accounting standard	Taylor and Turley, 1985, qu 3

Section A contained four questions addressing general issues in accounting for leases. Questions 1 and 2 investigated respondents' views on accounting standards in general and the extent of their familiarity with the new proposals for lease accounting. Questions 3 and 4 addressed the suggested deficiencies of SSAP 21 and the principles governing the new proposals. Section B contained three questions concerning the new proposals for accounting for certain specific features to lease agreements, namely renewal purchase options, contingent rentals and rentals that vary in line with prices. In Section C, two questions addressed the proposed consequences of the new proposals, in general and specifically in relation to the leasing of land and buildings. In Section D, two questions were included to investigate alternative lease accounting treatment and implementation issues.

Section E of the questionnaire requested general information concerning respondents.

9.3: Survey administration and questionnaire returns

The process adopted is described in detail in Section 4.5 and Section 4.6 of Chapter 4. The reform questionnaire was originally mailed to 415 finance directors on the 14th June 2000. It was followed up with two reminders over a total four-week period. The initial covering letter and the two reminder letters are shown in Appendices 26 to 28.

Chapter 10: Results from the lease accounting reform questionnaire

10.1 Response profile, sample representativeness and non-response bias

The lease accounting reform questionnaire was completed by 91 respondents; 78 from the 415 companies mailed (approximately 18.8% response rate) and 13 companies who received the corporate financing and leasing decisions questionnaire.

Of the remaining 337, 104 returned the questionnaire uncompleted, whilst 233 failed to acknowledge receipt. A summary of the reasons provided for non-completion is shown in Table 10.1. The most popular reason appeared to be time constraints, followed by a company policy not to participate in questionnaire surveys.

The response rate is slightly less favourable in comparison to the corporate financing and leasing decisions questionnaire (23%). It was anticipated that the reform questionnaire would achieve a higher response given it was shorter and extremely topical. However, the lower response rate may be as a result of another questionnaire survey, originating from The Department of Accountancy, Finance and Law, University of Stirling. This other survey was unavoidably executed during the same time period to the same sample of respondents. Indeed, five respondents returning the reform questionnaire uncompleted indicated this to be the case.

In an attempt to establish the authority of the information provided, the company status of persons completing the questionnaire was requested. Approximately 46% of respondents indicated that they held the position of finance director/group financial director, for whom the questionnaire was intended (Table 9.2). The remainder mainly appeared to hold other senior accountancy-orientated corporate positions. Of those responding, approximately 36% were 'not at all' or only 'slightly' familiar with the new proposals for lease accounting, whilst approximately 65% were 'moderately' or 'very' familiar (Table 10.3). In order to test if question responses were in any way a product of the depth of lease accounting knowledge of respondents, the responses to each question were also analysed separately for both groups. A Wilcoxon-Mann-Whitney test was used to

establish whether there was any significant difference in the response to each question on the basis of familiarity with the new proposals.

Table10.1: Reasons provided for non-completion

Reason for non-completion	Number of companies	Percentage of companies
No time/too busy	34	32.69
Company policy	17	16.35
Regrets	11	10.58
Small organisation / understaffed	8	7.69
Returned uncompleted - no reason	7	6.73
No lease accounting / limited knowledge	6	5.77
Too many requests for information from Stirling University	5	4.81
Finance Director away on business	2	1.92
Finance Director / operations based in US	2	1.92
Finance Director's policy	2	1.92
Impossible to complete all questionnaires	2	1.92
Don't care to be hounded	1	0.96
Managing Director not qualified	1	0.96
Inappropriate to business context	1	0.96
Require contribution to charity	1	0.96
No longer PLC	1	0.96
No strong views	1	0.96
Shell company	1	0.96
Operating subsidiary acquired by another company	1	0.96
Total	104	100.00

Table 10.2: Respondents' corporate positions

Position	Percentage of respondents (n=91)
Finance Director / Group Finance Director	51
Financial Controller / Group Financial Controller	15
Accounting / Finance / Business Managers	9
Accountant / Financial Accountant / Group Financial Accountant	8
Other Directors	7
Group Treasurer	2
Company Secretary	1
Position not stated	8
Total	100

Table 10.3: Familiarity with the new lease accounting proposals

	Percentage of respondents (n = 91)
Not at all familiar	7
Slightly familiar	29
Moderately familiar	53
Very familiar	12

To investigate whether the sample of responding companies is representative of the entire population of UK quoted industrial companies, a comparison was made on the basis of industry profile and company size (Moore and Reichert, 1983).

The FT industry classification of the entire population compared to that of the sample of respondents is shown in Table 10.4. The support service industry, followed by construction and building materials, are most prominent in both the population and responding sample, although they are represented in a slightly higher proportion in the sample. Several industries are not represented in the responding sample. However, with the exception of household goods and textiles, these industries are not heavily represented in the population as a whole. A chi-square test indicated that there was no statistically significant difference between the industry profile of the population and that of the sample of respondents.

Summary statistics of total assets, as an indication of company size, for the population and responding sample are shown in Table 10.5. The mean total assets for the sample is approximately 170% of the population's mean total assets. Therefore, the average size of companies in the sample is higher than that of the population. In addition, minimum total assets for companies in the population is £5k, compared to £642k in the responding sample. The standard deviation of the responding sample is greater than that of the population. Therefore, the responding sample appears to contain a higher proportion of larger companies, including perhaps, some companies of considerable size. A formal t-test confirmed that the

Table 10.4: Industry classification – population & respondents

	Population		Respondents	
Industry	**Number of Companies**	**Percentage**	**Number of Companies**	**Percentage**
Support services	105	8.43	11	12.09
Construction & Building Materials	99	7.95	10	10.99
Software & Computer Services	94	7.54	4	4.40
Media & Photography	91	7.30	5	5.49
General Retailers	79	6.34	4	4.40
Household Goods & Textiles	77	6.18	0	0.00
Engineering & Machinery	76	6.10	6	6.59
Leisure, Entertainment & Hotels	76	6.10	6	6.59
Distributors	65	5.22	3	3.30
Electronic & Electrical Equipment	49	3.93	4	4.40
Restaurants, Pubs & Breweries	44	3.53	4	4.40
Food Producers & Processors	43	3.45	4	4.40
Transport	43	3.45	3	3.30
Pharmaceuticals	37	2.97	3	3.30
Health	34	2.73	7	7.69
Oil & Gas	32	2.57	2	2.20
Chemicals	25	2.01	1	1.10
Information Technology Hardware	24	1.93	3	3.30
Food & Drug Retailer	21	1.69	2	2.20
Mining	15	1.20	1	1.10
Aerospace & Defence	14	1.12	0	0.00
Packaging	14	1.12	0	0.00
Telecommunication Services	14	1.12	2	2.20
Water	13	1.04	2	2.20
Automobiles	12	0.96	2	2.20
Beverages	10	0.80	1	1.10
Electricity	9	0.72	0	0.00
Personal Care & Household Products	9	0.72	1	1.10
Steel & Other Metals	7	0.56	0	0.00
Diversified Industries	5	0.40	0	0.00
Forestry & Paper	4	0.32	0	0.00
Gas Distribution	3	0.24	0	0.00
Tobacco	3	0.24	0	0.00
TOTAL	1246	100.00	91	100.00

Chi-square=6.391 p=0.604

Table 10.5: Total assets profile for population and respondents

	UKQI Population	Sample of Respondents	Test Statistic	p
N	1246	91		
Mean (£'m)	637	1082	-1.15	0.25
Median (£'m)	52	68		
Standard Deviation (£'m)	2590	3624		
Minimum (£'000)	5	642		
Maximum (£'m)	55394	2796		

mean total assets for the population and responding sample were not statistically significantly different. Also, a Mann-Whitney confidence interval and test confirmed that the median total assets for the population and respondents were not significantly different. In summary, the responding sample, in terms of industry profile and company size, appears to be fairly representative of the UKQI population as a whole.

The existence of non-response bias was investigated by comparing the responses provided to questions by early and late respondents, using late respondents as a proxy for non-respondents (Roberts, 1999). Questionnaires were returned in the time period from 12th June 2000 to 4th September 2000. Respondents were classed into one of three groups, 'early', 'middle', and 'late' respondents, according to the date their completed questionnaire was received. Those received between 12th June and 23rd June were classed as 'early', those between 24th June and 16th July were classed as 'middle', and those between 17th July and 4th September as 'late'. The responses to questions were analysed by early and late respondents (Appendix 29). The differences in response to questions were not found to be statistically significant, with one exception. Late respondents were in stronger disagreement to the value of renewal / purchase options being reliably ascertained by comparison with the lease rentals for similar agreements excluding options (Row 4, Panel D, Appendix 29). In light of the insignificant differences between early and late respondents, the questionnaire responses should not be unduly affected by non-response bias.

10.2 Respondents' opinions on accounting standards

Respondents' views on lease accounting reform could be affected by their opinion of accounting standards in general. Opinions on accounting standards are shown in Table 10.6. The general need for accounting standards is supported by 95% of respondents, who responded negatively to standards being an undesirable and unnecessary intrusion into company activities (row 1, Panel A). The extent of agreement concerning whether they impose a significant burden on companies is not as clear, due to the very high variation in responses. In response to accounting standards not imposing a burden, only 29% disagreed and 18% strongly disagreed (row 2); whereas 40% agreed and 27% strongly agreed that they do (row 3). These findings are comparable with those of Taylor and Turley (1985), who found 91% of their respondents to support the general need for accounting standards, despite 69% indicating that they do impose a significant burden.

The differences in response to these questions on the basis of new proposal familiarisation were not statistically significant (Panel B, Table 10.6).

It appears, therefore, that the responses to questions concerning lease accounting should not be coloured by a disagreement with accounting standards in general. Any difference in the perceived burden imposed on companies arising from the existing standard and the new proposals could, however, be an issue.

10.3 Respondents' opinions on the current lease accounting standard (SSAP 21)

In the development of high quality accounting standards, new proposals should address a current deficiency (American Accounting Association's Financial Accounting Standards Committee, 1998). Respondents were, therefore, asked the extent of their agreement with suggested deficiencies of SSAP21. Their views, in descending order of agreement, are shown in Table 10.7.

Under SSAP21, leases are classed as *finance* leases if substantially all the risks and rewards of ownership of the leased asset are transferred to the lessee. The transfer of risks and rewards is presumed to occur if, at the inception of the lease, the present

Table 10.6: Opinions on accounting standards

KEY: 1-strongly disagree, 2-disagree, 3-neutral,, 4-agree, 5-strongly agree, DK-don't know

	Question asked (abbreviated)	Total Sample: Response category 1	2	3	4	5	DK (Percentage of responses)	Mean[1]	Standard Deviation	Sub Sample: Not at all/slightly familiar: Mean[1]	Standard Deviation	Sub Sample: Moderately/very familiar: Mean[1]	Standard Deviation	Wilcoxon-Mann-Whitney test: Z value[2]
Accounting Standards are:														
1	an undesirable and unnecessary intrusion into company activities	60	35	0	4	1	0	1.51***	0.80	1.64***	0.95	1.44***	0.70	0.64
2	desirable and impose no significant burden on companies	18	29	27	18	7	0	2.67**	1.19	2.68	1.12	2.67**	1.23	0.11
3	desirable but do impose a significant burden on companies	3	13	17	40	27	0	3.70***	1.10	3.60***	0.90	3.80***	1.20	-1.62

*** significant at 1% (two-tailed test)

** significant at 5%

[1] Test of whether mean is significantly different from neutral (ie. 3)

[2] Wilcoxon-Mann-Whitney test of significant difference between group means

Table 10.7: Opinions on current lease accounting standard (SSAP21)

KEY: 1-strongly disagree, 2-disagree, 3-neutral,, 4-agree, 5-strongly agree, DK-don't know

		Total Sample								Sub Sample: Not at all/slightly familiar		Sub Sample: Moderately/very familiar		Wilcoxon-Mann-Whitney test
Question asked (abbreviated)		**Response category**						**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Z value[2]**
		1	**2**	**3**	**4**	**5**	**DK**							
		Percentage of responses												
Agreement with suggested deficiencies of SSAP21:														
1	Leasing transactions deliberately structured for operating lease classification	0	6	12	43	34	4	4.12***	0.85	3.82***	0.94	4.26***	0.76	-2.06**
2	Substantially similar leasing transactions can be accounted for in different ways	0	6	20	48	22	4	3.91***	0.82	3.75***	0.70	3.98***	0.87	-1.31
3	No balance sheet recognition of material operating leased assets and liabilities	4	7	17	44	24	3	3.81***	1.04	3.83***	0.89	3.79***	1.12	-0.19
4	No single accounting method applicable to all leases	2	11	26	41	17	3	3.61***	0.98	3.55***	0.83	3.64***	1.05	-0.51
5	Estimation of balance sheet impact of operating leases based on limited information	1	11	37	38	8	6	3.42***	0.85	3.21	0.99	3.53***	0.76	-1.58
6	Inconsistency with FRS5	8	12	28	36	8	9	3.30**	1.10	3.30	1.10	3.20	1.10	-0.10
7	Lease classification requires difficult and subjective judgements	1	23	30	32	10	3	3.28***	0.98	3.14	0.95	3.34***	1.00	-0.87
8	Impairs comparison between companies	4	26	24	30	12	3	3.21	1.11	3.24	1.06	3.19	1.15	0.14
9	Impairs evaluation of long term financial commitments	7	23	30	30	7	3	3.07	1.05	3.14	0.83	3.03	1.15	0.37
10	Impairs estimation of risks involved in providing finance to lessee companies	10	26	37	18	3	7	2.77**	1.00	2.83	0.85	2.75	1.08	0.51

*** significant at 1% (two-tailed test)

** significant at 5%

[1] Test of whether mean is significantly different from neutral (ie. 3)

[2] Wilcoxon-Mann-Whitney test of significant difference between group means

value of the minimum lease payment amounts to 90% or more of the fair value of the leased asset. Finance leases are required to be capitalised, with the asset and corresponding liability under the lease agreement, recorded on the balance sheet. All other leases are classed as *operating* leases. A company is only obliged to disclose operating lease rentals charged to the profit and loss account for the year, and the payments it is committed to make during the next year divided according to when the commitment expires.

SSAP21 was thought to be deficient by allowing transactions to be deliberately structured for operating lease classification by 77% of respondents (row 1). Further, 70% acknowledged that it permits similar transactions to be accounted for in different ways (row 2). However, only 42% agreed that lease classification requires difficult and subjective judgements (row 7). Taken together, these findings appear to suggest that at least 28% of respondents believe that recording similar transactions in different ways under SSAP21 arises only as a result of deliberate manipulation on the behalf of account preparers.

SSAP21 was thought to be deficient by providing no balance sheet recognition of material operating leased assets and liabilities by 68% of respondents (third ranked deficiency, row 3). However, the variation in responses was high. On average, respondents not at all/slightly familiar with the new proposals were in stronger agreement that SSAP21 was deficient for non-recognition of operating leases, than it being open to manipulation (i.e., this deficiency was ranked first by this group). In comparison, respondents who were moderately/very familiar with the new lease accounting proposals were in stronger agreement that SSAP21 is primarily deficient by being open to manipulation (mean response of 4.26 compared with 3.82, row 1).

The purpose of having similar transactions accounted for in similar ways is to enable users to analyse performance across time periods and between companies. However, only 42% of respondents agreed that SSAP21 impairs comparisons between companies (row 8), and the mean response was not statistically significantly different from neutral.

The purpose of preventing accounting standards from being manipulated in order to avoid balance sheet recognition is to enable the long-term financial position of a company to be evaluated. However, only 46% of respondents agreed that SSAP21 required an estimation of the balance sheet impact of operating leases based on limited information (row 5). The variation in responses as to whether SSAP21 impairs the evaluation of long-term financial commitments was high. Only 37% of respondents were in agreement, and the mean response of 3.03 was not statistically significantly different from neutral (row 9). In addition, 36% of respondents refuted that it impairs the estimation of the risks involved in providing finance to lessee companies (row 10). The mean response of 2.77 was statistically significantly different from neutral.

SSAP21 was thought to be deficient by being inconsistent with FRS5, which promotes recording the substance of a transaction over the legal form, by 42% of respondents (row 6).

The differences in response to these questions on the basis of new proposal familiarisation were not statistically significant; with the exception of those moderately/very familiar being in stronger agreement that SSAP21 is deficient by being open to manipulation (row 1).

In summary, responses suggest that SSAP21 is deficient in that it cannot be rigorously interpreted and applied as it enables similar transactions to be accounted for in different ways. On this basis, SSAP 21 falls short of the suggested criteria of a high quality accounting standard (Levitt, 1998). Therefore, the introduction of new proposals to rectify current deficiencies appears to be justified.

However, the subsequent impact for account users appears to be considered less of a deficiency. There is no clear opinion on whether SSAP21 impairs comparisons between companies (row 8) or impairs evaluation of long term financial commitments (row 9). In addition, respondents disagree that it impairs the estimation of risks involved in providing finance to lessee companies. Respondents may underestimate the predominant and prolific use of operating leases (Beattie et al., 1998) and assume their capitalisation to have no material impact. Also,

respondents may believe in market efficiency, perceiving that operating lease disclosures are accurately included in assessments of equity risk. Previous empirical evidence suggests this to be the case. In the study presented in the final part to this thesis, investors/ analysts did appear to recognise operating lease liabilities in their assessments of equity risk. In contrast, responses from the leasing and corporate financing decisions questionnaire suggest that finance directors perceive market inefficiency. In response to the question of how often company shares are perceived to be fairly priced by the market, 86% responded less than 75% of the time.

10.4 Respondents' opinions on the principles put forward in the new lease accounting proposals

In the development of high quality accounting standards, new proposals should correct current deficiencies (American Accounting Association's Finance Accounting Standards Committee, 1998). Respondents were, therefore, asked the extent of their agreement with the principles put forward in the new proposals with the intention of correcting correct current deficiencies.

10.4.1 General Issues

Respondents' opinions on the general principles put forward in the new proposals are shown in Table 10.8 in descending order of agreement.

A generally high variation in responses was received to each of the principles of recording all material leases on the lessee's balance sheet (row 1), and of one accounting method applicable to all leasing transactions (row 2). However, on average, respondents appear to be in favour (mean=3.27 & 3.32, rows 1 & 2 respectively).

Respondents who agreed that SSAP21 was deficient as a result of no balance sheet recognition of operating leases would be expected to have agreed with the new proposal of recording all material leases on the balance sheet. However, the correlation coefficient between these two sets of responses was only 0.26. A relationship between responses to SSAP21 being deficient in that it provides no single accounting method applicable to all leases and the new proposals providing

Table 10.8: Opinions on the principles put forward in new lease accounting proposals

KEY: 1-strongly disagree, 2-disagree, 3-neutral,, 4-agree, 5-strongly agree, DK-don't know

		Total Sample								Sub Sample: Not at all/slightly familiar		Sub Sample: Moderately/very familiar		Wilcoxon-Mann-Whitney test
Question asked (abbreviated)		**Response category**						**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Z value[2]**
		1	**2**	**3**	**4**	**5**	**DK**							
		Percentage of responses												
1	All material leases recorded on lessee's balance sheet	9	24	10	42	13	1	3.27**	1.23	3.23	0.96	3.29	1.36	-0.66
2	One accounting method applicable to all leasing transactions	9	22	13	38	17	1	3.32**	1.25	3.36**	0.95	3.29	1.38	-0.17
3	One accounting method applicable to all types of tangible assets including land and buildings	16	20	12	42	8	2	3.07	1.27	2.74	1.24	3.25	1.26	-1.82
4	Lease accounting method equally applicable to leases of tangible and intangible assets	11	21	24	33	6	4	3.01	1.13	2.87	1.12	3.09	1.14	-0.87
5	No distinction on the basis of short/insignificant lease agreements	10	30	19	33	7	1	2.96	1.15	2.81	1.17	3.04	1.15	-0.93

*** significant at 1% (two-tailed test)

** significant at 5%

[1] Test of whether mean is significantly different from neutral (ie. 3)

[2] Wilcoxon-Mann-Whitney test of significant difference between group means

one accounting method was also expected. However, the correlation coefficient between these sets of responses was only 0.31. In light of this inconsistency, a cross-tabulation of the responses to these two sets of questions was obtained (Tables 10.9 and 10.10). Further statistical tests confirmed responses to be statistically unrelated.

These findings, therefore, suggest that a significant proportion of respondents, despite agreeing that SSAP21 is deficient, fail to agree with the new proposals to eradicate these deficiencies. If these respondents believe there are no significant consequences to the deficiencies of SSAP21, then their agreement with change for change sake might not be expected. Respondents might have agreed in principle that the new proposals would eradicate the deficiencies arising from SSAP21. However, they might not have agreed with the proposals because they don't want to adhere to them in practice. Respondents might be adverse to any form of change and prefer to maintain the status quo (Samuelson and Zeckhauser, 1988). They could also anticipate adverse consequences for their organisations as a result of the introduction of the new proposals.

The responses in respect of proposals that a lease accounting method should be equally applicable to land and buildings, intangible assets and short-term lease agreements were also very diverse (rows 3-5). As a result, the mean responses were not found to be statistically significantly different from neutral. On average, respondents who were not at all/ slightly familiar with the new proposals were in disagreement, compared to marginal agreement amongst those who were moderately/very familiar. The differences in response on the basis of new proposal familiarisation were not found to be statistically significant.

In summary, respondents don't appear to be against the general principles put forward in the new proposals. On average, they supported the introduction of one accounting method in which all material leases would be recorded on the balance sheet.

Table 10.9: Cross-tabulation of responses to all material leases on balance sheet under new proposals and no balance sheet recognition of operating leases a deficiency of SSAP21

	New Proposals: All material leases on balance sheet			
SSAP21: No balance sheet recognition of operating leases				
	Strongly Disagree/Disagree	**Neutral**	**Strongly Agree/Agree**	**Total**
Strongly Disagree/Disagree	**5 (6%)**	**1 (1%)**	**4 (4%)**	**10**
Neutral	**8 (9%)**	**2 (2%)**	**5 (6%)**	**15**
Strongly Agree/Agree	**17 (20%)**	**6 (7%)**	**39 (45%)**	**62**
Total	**30**	**9**	**48**	**87**

The percentage of respondents is shown in paranthesis

Table 10.10: Cross-tabulation of responses to one single accounting method under new proposals and no single method applicable to all leases a deficiency of SSAP21

	New Proposals: One lease accounting method			
SSAP21: No single lease accounting method				
	Strongly Disagree/Disagree	**Neutral**	**Strongly Agree/Agree**	**Total**
Strongly Disagree/Disagree	**5 (6%)**	**2 (2%)**	**5 (6%)**	**12**
Neutral	**8 (9%)**	**5 (6%)**	**10 (11%)**	**23**
Strongly Agree/Agree	**14 (16%)**	**4 (4%)**	**34 (39%)**	**52**
Total	**27**	**11**	**49**	**87**

The percentage of respondents is shown in paranthesis

10.4.2 Specific Issues

Under the assumption that the fair value of rights and obligations conveyed by all material lease agreements were required to be recorded on the balance sheet, respondents were asked their opinions on the treatment of renewal/purchase options, contingent rentals and rentals that vary in line with prices.

Renewal/Purchase Options:

Under SSAP21, a renewal option (if it is reasonably certain of being exercised) is included in determining the lease term for classifying agreements as finance or operating leases. If the exercise of a renewal is reasonably certain, the present value of lease rentals payable in the initial period and the renewal period would appear on the balance sheet, if it amounted to 90% or more of the fair value of the leased asset.

The new proposals would require the present value of all material lease agreements to be recorded on the balance sheet. However, the new proposals suggest that renewal/purchase options should not be anticipated. Therefore, in contrast to SSAP21, only the present value of rentals payable in the initial period would appear on the balance sheet. Under the new proposals, shorter guaranteed terms could, therefore, reduce finance lease balance sheet obligations when renewal/purchase options are likely to be exercised.

Sixty percent of respondents agreed that renewal/purchase options should not be anticipated as suggested by the new proposals (row 1, Table 10.11). However, only 40% disagreed with recording probable amounts payable under renewal options as assets and liabilities at the beginning of lease agreements, which is currently the case for finance leases. There was a high variation in responses, and the mean response of 2.83 was not statistically significantly different from neutral (row 2, Table 10.11).

Surprisingly, only 39% of respondents agreed that, under the new proposals, negotiation of short terms of asset usage that incorporated renewal options could ensure future requirements whilst minimising balance sheet obligations (row 6, Table 10.11).

Table 10.11: Opinions on the accounting treatment of renewal/purchase options in lease agreements

KEY: 1-strongly disagree, 2-disagree, 3-neutral,, 4-agree, 5-strongly agree, DK-don't know

		Total Sample								Sub Sample: Not at all/slightly familiar		Sub Sample: Moderately/very familiar		Wilcoxon-Mann-Whitney test
Question asked (abbreviated)		**Response category**						**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Z value[2]**
		1	**2**	**3**	**4**	**5**	**DK**							
		Percentage of responses												
1	No anticipation of renewal/purchase options	1	7	24	46	14	8	3.71***	0.86	3.62***	0.75	3.75***	0.91	-1.09
2	Recording probable amounts paid under options as an asset and liability at beginning of leases	8	32	21	26	3	10	2.83	1.06	2.85	1.01	2.82	1.09	0.20
3	Renewal/purchase options of significant value recorded as a separate asset and liability	14	28	27	19	0	12	2.57***	1.01	2.46***	0.95	2.62***	1.04	-0.59
4	Renewal/purchase option value ascertained by comparison with lease rentals for similar agreements without options	12	27	28	21	0	12	2.66***	1.00	2.71	0.98	2.63***	1.02	0.34
5	Significant compliance costs involved in obtaining option valuations	0	6	13	44	27	10	4.03***	0.84	3.93***	0.87	4.07***	0.82	-0.88
6	Negotiation of short terms of asset usage that incorporates renewal options could ensure future requirements and minimise balance sheet obligations	1	4	38	33	6	18	3.46***	0.76	3.46***	0.58	3.46***	0.85	-0.25

*** significant at 1% (two-tailed test)

** significant at 5%

[1] Test of whether mean is significantly different from neutral (ie. 3)

[2] Wilcoxon-Mann-Whitney test of significant difference between group means

When lease agreements contain renewal/purchase options, the value to the lessee along with the rights to use the asset, are reflected in the present value of the minimum lease rentals. Under SSAP21 no distinction is made between the right to exercise an option and the right to use the asset. Under the new proposals, the right to exercise renewal/purchase options of significant value would be recorded separately on the balance sheet. The aim is to highlight the flexibility of different lease agreement arrangements. It is proposed that option values could be ascertained through direct comparison with similar lease agreements without options.

On average, respondents disagreed with the principle of showing option values as separate assets and liabilities (mean=2.57, row 3), and with the suggested method of option valuation (mean=2.66, row 4). In addition, 71% of respondents agreed that obtaining option valuations would involve significant compliance costs (row 5). The strength of feeling is apparent from a mean response of 4.03 with very low variation amongst responses.

The differences in response to these questions, on the basis of new proposal familiarisation, were not statistically significant.

In summary, respondents were in favour of not anticipating the exercise of renewal/purchase options as suggested in the new proposals. However, they did not support the suggestion of showing the right to exercise an option separately from the right to use the leased asset; probably as a result of the significant compliance costs anticipated.

Contingent lease rentals

Under SSAP21, lease rentals contingent on asset usage or lessee profits/revenues are not included in the minimum lease payments used for lease classification. In the case of finance leases, they are also not included in the capitalised value recorded in the balance sheet.

Under the new proposals, if the minimum lease payments are unrepresentative of the value of property rights conveyed by a lease agreement as a result of contingent rentals, then a greater amount reflecting the value of such rights would be recognised. The proposals suggest that the value of property rights conveyed by a lease agreement with contingent rentals might be determined by comparison with lease payments for a similar agreement without contingent rentals.

Respondents' views on the accounting treatment of contingent rentals are shown in Table 10.12. The non-recognition of contingent rentals was viewed positively by 68% (row 1), with 57% responding negatively to the inclusion of estimates based on probable amounts paid (row 2). The mean response to the balance sheet recognition of the fair value of property rights conveyed if minimum lease rentals were unrepresentative was not statistically significantly different from neutral (row 3).

On average, there was a negative response (mean=2.77) to obtaining the fair value of property rights conveyed by comparing similar agreements with and without a contingency (row 4). In addition, respondents thought such comparisons to be incorrect, because the contingent element to lease agreements restricts asset use (mean=3.29, row 5). The differences in response to these questions were not found to be associated with respondents' familiarisation with the new proposals.

In summary, respondents were in favour of retaining the current accounting treatment of contingent lease rentals under SSAP21, rather than accepting the new proposals.

Lease rentals that vary in line with prices

Under SSAP21, any variation in lease rentals arising from price changes is not anticipated at the beginning of the lease term, but treated as an increase/decrease in finance charges in the period in which it occurs. The line of reasoning that supports this treatment is that until a rent review takes place, there is no liability to pay more than the minimum lease payments. Even if there were a liability, it could only be recognised if it could be measured reliably.

Table 10.12: Opinions on the accounting treatment of contingent lease rentals

KEY: 1-strongly disagree, 2-disagree, 3-neutral,, 4-agree, 5-strongly agree, DK-don't know

		Total Sample								Sub Sample: Not at all/slightly familiar		Sub Sample: Moderately/very familiar		Wilcoxon-Mann-Whitney test
Question asked (abbreviated)		**Response category**						**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Z value[2]**
		1	**2**	**3**	**4**	**5**	**DK**							
		Percentage of responses												
1	No balance sheet recognition of contingent lease rentals	1	17	10	51	17	4	3.69***	1.00	3.58***	0.99	3.75***	1.00	-0.93
2	Balance sheet recognition based on estimates of probable amounts paid	17	40	16	23	0	4	2.48***	1.05	2.65	1.02	2.38***	1.06	1.21
3	The fair value of property rights conveyed recognised in the balance sheet if minimum lease rentals are unrepresentative	7	23	36	29	1	4	2.94	0.94	2.93	0.83	2.95	1.00	-0.09
4	Comparison with similar lease agreements without contingency to ascertain fair value of property rights conveyed	11	22	31	22	1	12	2.77**	1.01	2.71	0.94	2.80	1.06	-0.42
5	Contingent elements to lease agreements restrict asset use making it incorrect to compare with similar agreements without contingency	2	11	37	29	6	15	3.29***	0.88	3.44***	0.80	3.20	0.91	0.83

*** significant at 1% (two-tailed test)

** significant at 5%

[1] Test of whether mean is significantly different from neutral (ie. 3)

[2] Wilcoxon-Mann-Whitney test of significant difference between group means

Under the new proposals, the present value of a best estimate of rentals that will actually be payable would be recorded on the balance sheet. The estimates would be required to be reviewed (and restated if necessary) at each balance sheet date, irrespective of rent review dates. The reasoning behind this treatment is that the difference in initial rentals for lease agreements with and without rent reviews could be misleading if no recognition is made for future rent rises.

Respondents' opinions on the accounting treatment of lease rentals that vary in line with prices are shown in Table 10.13. A generally high variation in responses was evident.

In support of SSAP21, 65% responded positively to the current treatment of recognising assets and liabilities on the basis of rentals applicable at the beginning of the lease term (row 1). Also, 54% responded negatively to the new proposal that estimates of rentals to be paid be included (row 3). The mean response as to whether the non-recognition of future rises could be misleading was not statistically significantly different from neutral (row 2).

Although 65% of respondents agreed that estimates of liabilities resulting from rising prices cannot be measured reliably (row 6), 45% indicated that they can be obtained, but only at a significant cost due to the requirement of expert advice (mean=3.28, row 7). The costs involved could be significantly higher if a review of estimates was undertaken at each balance sheet date, compared to less frequent reviews at rent revision dates. Since the costs of reviewing estimates would be borne by respondents as account preparers, a preference for rent revision dates might be expected among those in favour of including estimates. However, the mean responses concerning whether estimates should be reviewed at (i) each balance sheet date or (ii) at rent revision date were both not statistically significantly different from neutral (rows 4 & 5). A cross-tabulation of responses as to when rental estimates should be reviewed is shown in Table 10.14. The strongly disagree and disagree categories and strongly agree and agree categories have each been collapsed into a single category. Only 2% responded negatively to a review of estimates at both dates (column 1, row 1). The majority of respondents were found to indicate a consistent preference for one option or the other; with reviews at

Table 10.13: Opinions on the accounting treatment of lease rentals that vary in line with prices

KEY: 1-strongly disagree, 2-disagree, 3-neutral,, 4-agree, 5-strongly agree, DK-don't know

		Total Sample								Sub Sample: Not at all/slightly familiar		Sub Sample: Moderately/very familiar		Wilcoxon-Mann-Whitney test
Question asked (abbreviated)		**Response category**						**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard**	**Mean[1]**	**Standard**	**Z value[2]**
		1	**2**	**3**	**4**	**5**	**DK**							
		Percentage of responses												
1	Assets and liabilities recognised on basis of rentals applicable at beginning of lease term	4	10	16	44	21	4	3.71***	1.08	3.68***	0.82	3.72***	1.19	-0.86
2	The difference in initial rentals for lease agreements with and without rent reviews could be misleading if no recognition is made for future rent rises	10	21	34	29	0	6	2.87	0.98	3.04	0.74	2.79	1.07	0.80
3	Assets and liabilities recognised on basis of estimates of rentals that will be paid	17	37	19	20	2	4	2.52***	1.09	2.83	1.00	2.36***	1.10	2..01**
4	Review of estimates that will be paid at each balance sheet date	11	24	17	36	8	3	3.05	1.20	2.93	0.98	3.11	1.30	-0.80
5	Review of estimates that will be paid at rent revision dates	8	30	20	33	5	5	2.95	1.10	3.08	1.06	2.89	1.12	0.74
6	Estimates of liabilities arising through rising prices cannot be measured reliably	3	9	19	36	29	3	3.81***	1.08	3.68***	1.09	3.88***	1.08	-0.98
7	Estimates of liabilities arising through rising prices can be obtained only at a significant cost by requiring expert advice	11	11	29	29	16	3	3.28**	1.21	3.39**	1.03	3.22	1.30	0.36

*** significant at 1% (two-tailed test)

** significant at 5%

[1] Test of whether mean is significantly different from neutral (ie. 3)

[2] Wilcoxon-Mann-Whitney test of significant difference between group means

Table 10.14: Cross-tabulation of opinions as to when rental estimates should be reviewed

	On Rent Revision Date			
On Balance Sheet Date	**Strongly Disagree/Disagree**	**Neutral**	**Strongly Agree/Agree**	**Total**
Strongly Disagree/Disagree	**2 (2%)**	**5 (6%)**	**24 (30%)**	**31**
Neutral	**2 (2%)**	**9 (11%)**	**3 (4%)**	**14**
Strongly Agree/Agree	**28 (35%)**	**3 (4%)**	**4 (5%)**	**35**
Total	**32**	**17**	**31**	**80**

The percentage of respondents is shown in paranthesis

balance sheet dates being slightly favoured (31%, column 1, row 1 compared to 26%, column 3, row 1).

The differences in response to these questions on the basis of new proposal familiarisation were not statistically significant with one exception. Respondents who were moderately/very familiar with the new proposals were in stronger disagreement with recognising rental estimates (mean = 2.36 compared to 2.83, Table 10.13, row 3).

On balance, respondents favoured the current treatment of not accounting for increases in lease rentals that vary in line with prices at the beginning of the lease term. Recognising estimates of rentals that will be paid was not thought to be reliable.

10.5 Respondents' opinions on the consequences of the principles put forward in the new lease accounting proposals

In the development of high quality accounting standards, the expected benefits derived from new proposals should exceed the expected costs (American Accounting Association's Financial Accounting Standards Committee, 1998). Respondents were, therefore, asked about the extent of their agreement with suggested consequences of the new proposals.

Respondent's views regarding sixteen possible consequences of recording the fair value of the rights and obligations conveyed by all material lease agreements on the balance sheet are shown in Table 10.15, in descending order of agreement. Responses to all of the possible consequences were fairly consistent.

Under the new proposals, 92% responded positively to the suggestion that many operating leases would give rise to assets and liabilities on the balance sheet (row 1). Consequently, 80% were in agreement that there would be an increase in reported measures of gearing (row 2). Therefore, respondents appear to acknowledge that *material* lease agreements are currently classed as operating

Table 10.15: Opinions on the consequences of recording the fair value of the rights and obligations conveyed by all material lease agreements on the balance sheet

		Total Sample								Sub Sample: Not at all/slightly familiar		Sub Sample: Moderately/very familiar		Wilcoxon-Mann-Whitney test
Question asked (abbreviated)		**Response category**						**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard**	**Mean[1]**	**Standard Deviation**	**Z value[2]**
		1	**2**	**3**	**4**	**5**	**DK**							
		Percentage of respondents												
1	Many operating leases would give rise to assets and liabilities on the balance sheet	0	0	6	51	41	2	4.36***	0.59	4.13***	0.68	4.48***	0.50	-2.33**
2	Increase in reported measures of gearing	0	4	12	41	39	3	4.18***	0.83	3.87***	0.86	4.35***	0.77	-2.69***
3	Renegotiation of borrowing covenants	0	6	14	49	22	9	3.96***	0.81	4.00***	0.80	3.95***	0.82	0.19
4	Additional compliance costs	1	9	29	37	21	3	3.70***	0.95	3.68***	0.80	3.72***	1.03	-0.41
5	Additional administrative burden	1	10	33	29	22	4	3.64***	0.99	3.62***	0.86	3.65***	1.06	-0.12
6	Shorter lease terms to minimise obligations	2	16	24	42	8	8	3.41***	0.95	3.48***	0.75	3.38***	1.04	0.28
7	Improvement in evaluation of long term finance commitments	3	17	24	42	9	4	3.38***	1.00	3.38**	0.90	3.34***	1.05	-0.04
8	Lease finance less attractive	2	13	36	38	8	3	3.37***	0.90	3.17	0.85	3.47***	0.92	-1.51
9	Improvement in company comparisons	6	16	28	39	7	6	3.27**	1.02	3.32**	0.86	3.25	1.09	0.15
10	Reduction in credit ratings	1	16	37	33	3	10	3.25***	0.83	3.27	0.78	3.24**	0.86	0.04
11	Increase in estimates of risks involved in providing finance to lessee companies	3	27	30	30	2	8	3.01	0.93	3.04	0.88	3.00	0.96	0.25
12	No effect on assessments of debt paying ability of lessee companies	1	27	38	26	2	7	3.01	0.84	2.93	0.66	3.05	0.92	-0.61
13	Significant short-term adverse effect of UK investment and leasing volumes	4	35	28	17	7	9	2.85	1.03	2.96	0.84	2.80	1.10	1.07
14	New assets purchased/constructed	2	31	41	18	0	8	2.81**	0.77	2.69**	0.68	2.86	0.81	-1.01
15	Financial flexibility provided by different leasing arrangements would be reflected	9	28	38	19	2	3	2.77**	0.96	2.76	0.83	2.77	1.03	0.05
16	Reduction in estimates of lessee company's ability to pay future dividends	3	38	40	8	1	10	2.62***	0.75	2.73	0.72	2.56***	0.76	0.82

*** significant at 1% (two-tailed test) ** significant at 5%

[1] Test of whether mean is significantly different from neutral (ie. 3)

[2] Wilcoxon-Mann-Whitney test of significant difference between group means

leases. Previous empirical research has reached the same conclusion. In a project to determine the impact of constructive operating lease capitalisation, Beattie et al. (1998) estimated the mean long term operating lease liability for a sample of 232 UK companies to be approximately £43 million in 1994. This amounted to approximately 39% of long term debt prior to operating lease capitalisation. Not suprisingly, operating lease capitalisation was found to have a significant impact on many key accounting performance indicators, especially gearing.

The need for re-negotiation of borrowing covenants, arising from increases in reported gearing, received a positive response from 71% of respondents (row 3). On average, respondents also indicated that they thought credit ratings would go down (mean=3.25, row 10). The majority of respondents acknowledged that the new proposals would be accompanied by additional costs of compliance and an additional administrative burden (mean=3.7 and 3.64, rows 4 & 5 respectively). However, they disputed any adverse effect on users' estimates of lessee companies' ability to pay future dividends (mean=2.62, row 16).

On average, respondents acknowledged that the new proposals would improve both the evaluation of long-term financial commitments (mean=3.64, row 7) and company comparisons (mean=3.27, row 9). Responses are somewhat conflicting when the average responses to SSAP21 being deficient by impairing company evaluations and comparisons were not statistically significantly different from neutral. A number of respondents appeared to be agreeing that the new proposals correct a deficiency, which they failed to acknowledge in the first instance. There was no clear consensus as to whether there would be an increase in the estimates of risk involved in providing finance to lessee companies or a change in the assessments of lessee companies' debt paying ability (rows 11 & 12). Respondents' views on a significant short-term adverse effect on UK investment and leasing volumes were also unclear (row 13).

The acknowledgement of the consequences that have greater impact on respondents as account preparers, compared to those primarily impacting users, is not surprising. Beaver (1978) acknowledged that the costs of increased disclosure requirements are largely borne by companies and largely benefit the analyst community. Parfet

(2000) likens compliance with accounting standards to company overheads – costs borne by companies which users are not prepared to pay for. Also, according to Johnson (1966), it requires a 'lively imagination' to believe that management is genuinely concerned with fair presentation when choosing between accounting alternatives.

There was a positive response from 50% of respondents that the new proposals would lead to shorter lease terms to minimise balance sheet obligations (row 6). However, this is not entirely consistent with previous responses, in that only 39% of respondents indicated that balance sheet obligations could be minimised by negotiating lease agreements with short terms of limited asset usage that incorporated renewal/purchase options (Table 5, row 6).

On average, respondents indicated that the new proposals would make lease finance less attractive (mean=3.37, row 8). However, they refuted the suggestion that new assets would be purchased/constructed as a result (mean=2.81, row 14). This might suggest that, although less attractive, lease finance would still compare favourably with alternative sources of finance. Alternatively, it might suggest that respondents don't always have the choice between purchase/construction and leasing. The use of specific assets may only be available in one form or the other. General comments made by the respondents provide some indication of this being the case. (For example, "the alternative to leasing isn't always available" and "the properties we operate from are only available on lease".)

On average, respondents did not agree that the new proposals would allow the financial flexibility provided by different leasing arrangements in the balance sheet to be reflected (mean=2.77, row 15).

The majority of differences in response on the basis of new proposal familiarisation were not statistically significant. However, respondents who were moderately/very familiar with the new proposals were in slightly stronger agreement with two consequences: (i) that many operating leases would give rise to assets and liabilities on the balance sheet and (ii) that reported measures of gearing would increase (rows 1 & 2). This could be because those respondents who were moderately/very familiar

were those who would suffer the consequences to a greater extent, i.e., their companies might have considerable operating lease obligations. This possibility is considered below.

In summary, respondents acknowledged that lease agreements currently classed as operating leases are material, and would, therefore, appear on the balance sheet under the new proposals. While there was agreement regarding the existence of cost-related consequences to account preparers, only a limited benefit to account users was acknowledged. Therefore, respondents don't appear to believe that the expected benefits of the new proposals would exceed the expected costs. This suggests that the proposals fall short of the characteristics of a high quality accounting standard. This is not a balanced view, however, considering that the respondents are account preparers, and would themselves bear the costs should the new proposals come into fruition.

10.6 Respondents' opinions on the consequences of the principles put forward in the new lease accounting proposals in respect of the leasing of land and buildings

The proposed new approach to lease accounting would have a major impact on property leases (i.e. land and buildings). These are typically long-term leases in which rentals are increased to prevailing market prices at regular intervals. Under SSAP21, such leases are generally treated as off-balance sheet operating leases. Under the new proposals, the present value of future rentals and an estimate of future increases would be recorded on the lessee's balance sheet. Respondents were, therefore, asked the extent of their agreement with suggested consequences of the new proposals applied to the leasing of land and buildings. Their views are shown in Table 10.16 in descending order of agreement.

Previous empirical studies (Beattie et al., 1998; Dresdner Kleinwort Benson, 1998) have shown that the capitalisation of operating leases relating to land and buildings would have a marked effect on reported gearing. This was also thought to be the case by 81% of respondents (row 1). The difficulty and expense involved in

Table 10.16: Opinions on the consequences of the new approach applied to the leasing of land and buildings

KEY: 1-strongly disagree, 2-disagree, 3-neutral,, 4-agree, 5-strongly agree, DK-don't know

		Total Sample								Sub Sample: Not at all/slightly familiar		Sub Sample: Moderately/very familiar		Wilcoxon-Mann-Whitney test
Question asked (abbreviated)		**Response category**						**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Z value[2]**
		1	**2**	**3**	**4**	**5**	**DK**							
		Percentage of responses												
1	A marked effect on reported gearing	0	2	12	48	33	4	4.17***	0.74	3.97***	0.85	4.27***	0.65	-1.64
2	Difficult and expensive to estimate present value of future property rent increases	0	11	11	44	28	6	3.94***	0.95	4.11***	0.69	3.86***	1.05	0.65
3	Combined P&L expense(depreciation and interest) in the early years of a new property lease would exceed market rent	0	8	30	27	11	14	3.55***	0.88	3.33	0.86	3.65***	0.88	-1.42
4	Negotiation of shorter term property leases	2	20	19	38	10	10	3.38***	1.04	3.60***	0.71	3.27	1.15	1.17
5	Improvement in comparison between companies purchasing and leasing property	3	18	28	38	6	7	3.26**	0.97	3.16	0.94	3.30**	0.99	-0.68
6	Avantage of showing increase in value arising from sub-leasing at a higher rent	3	7	44	33	1	11	3.24***	0.78	3.27	0.72	3.23**	0.81	0.20
7	Advantage of writing off any loss on leased property when it occurs rather than on vacation.	6	11	31	35	3	13	3.22**	0.96	3.19	0.94	3.24	0.97	-0.03
8	Difficulty in funding new property development due to a reluctance to enter long term leases	4	25	29	22	10	9	3.10	1.08	3.58***	0.86	2.87	1.11	2.91***
9	Rise in property rental yields to reflect higher risk arising from loss of security of long term tenants	2	21	39	13	9	15	3.07	0.97	3.12	0.83	3.04	1.04	0.45
10	Property purchased rather than leased	4	28	33	18	0	17	2.77**	0.85	2.79	0.83	2.76	0.87	0.14

*** significant at 1% (two-tailed test)

** significant at 5%

[1] Test of whether mean is significantly different from neutral (ie. 3)

[2] Wilcoxon-Mann-Whitney test of significant difference between group means

estimating the present value of future property rent increases was acknowledged by 72% (row 2). In fact, it is noted in the new proposals that a reliable estimate cannot be derived simply from a forecast of general trends of future property prices. The price applicable to a specific property might diverge significantly from prices in general. Also predictions of prices applicable at specific rent revision dates in the future cannot be obtained reliably from general trends. It is suggested that an estimate of future price increases might be obtained by comparing a lease of similar property without rent rises. However, according to the Finance and Leasing Association (FLA) in their response to the new proposals, virtually no such leases exist in the UK.

On average, respondents acknowledged that, under the new proposals, the combined profit and loss expense of depreciation and interest would exceed market rent in the early years of the lease agreement (mean=3.55, row 3).

In addition to improving comparisons between companies purchasing and leasing property, the new proposals suggest that the balance sheet recognition of the rights and obligations to occupy leased property would have other advantages. It would enable any loss on leased property to be written off when it occurs rather than on vacation of the property, and any increase in value arising from sub-leasing at a higher rent to be shown. On average, respondents appear to support these arguments (mean=3.2, rows 5,6 & 7).

In their response to the new proposals, the FLA and BVRLA predicted that the property market would undergo substantial change, with shorter lease terms to minimise balance sheet obligations or purchasing outright. Responses appeared to justify these predictions with respect to the negotiation of shorter-term property leases (mean=3.84, row 4). However, on average, the purchase of property instead of leasing was considered unlikely (mean=2.77, row 10). This might suggest that respondents may not always have the choice to purchase the specific property they require, it may only be available to rent.

The FLA and BVRLA suggest it may be difficult to fund new property development without the security of long-term tenants, and rent yields may rise to reflect an

increase in lessor's risk. On average, respondents had no clear opinion on these possible property market consequences. (The mean responses were not statistically significantly different from neutral as shown in rows 8 & 9). However, the difference in response, based on new proposal familiarisation, to the possible difficulty of funding new property development was statistically significant (row 8). Respondents who were not at all/slightly familiar indicated that they thought funding new property development would be difficult as a result of new lease accounting proposals, whereas other respondents were, on average, neutral. No other differences on the basis of proposal familiarisation were statistically significant. An insight into the degree of property leasing by respondents could indicate who is likely to be more knowledgeable of the existing property market. The demand for property in certain areas may be so great that property development won't be affected by changes in lease accounting.

In summary, respondents strongly acknowledge the consequences of accounting for land and buildings under the new proposals which impact primarily on them as account preparers, compared to the potential benefit to users. With the exception of the potential for shorter lease terms, there was no clear opinion on whether the new proposals would substantially change the face of the UK property market.

10.7 Respondents' opinions on lease accounting alternatives

In determining the future for lease accounting in the UK, standard setters, in their publication of the new proposals, set out the need for change (ASB Discussion paper 1999). They identify deficiencies in the current standard SSAP21, and offer a new approach to overcome them. They must believe that the future benefits to be obtained from such a radical change will outweigh any costs of implementation.

However, the standard setting process is one of consultation. The views of all interested parties have been invited for consideration. Therefore, respondents, in their capacity as account preparers, were asked the extent of their agreement with what the future might hold for lease accounting. Their views are shown in Table 10.17, in descending order of agreement.

Table 10.17: Opinions on lease accounting alternatives

KEY: 1-strongly disagree, 2-disagree, 3-neutral,, 4-agree, 5-strongly agree, DK-don't know

		Total Sample								Sub Sample: Not at all/slightly familiar		Sub Sample: Moderately/very familiar		Wilcoxon-Mann-Whitney test
Question asked (abbreviated)		**Response category**						**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Z value[2]**
		1	**2**	**3**	**4**	**5**	**DK**							
		Percentage of responses												
1	Analysis of lease commitments by asset type	3	8	13	58	15	2	3.75***	0.93	3.5***	1.01	3.88***	0.87	-2.08**
2	Amount and timing of future lease cash flow commitments without any capitalisation	6	33	12	35	12	2	3.16	1.19	3.43**	1.04	3.02	1.25	1.5
3	All lease commitments and asset values disclosed in footnotes without any capitalisation	6	33	16	29	13	3	3.13	1.20	3.31	1.07	3.04	1.25	0.99
4	Maintaining current distinction between finance and operating leases	9	30	17	28	12	3	3.05	1.23	3.14	0.99	3.00	1.34	0.49
5	Capitalised value of all leases recorded in balance sheet with footnote disclosure of other material aspects	12	28	17	30	9	3	2.95	1.23	2.97	1.00	2.95	1.34	0.06
6	Introduction of 75% threashold in finance lease classification	8	32	31	18	2	9	2.73**	0.97	2.96	0.75	2.64***	1.03	1.48
7	Capitalised value of all leases recorded in balance sheet without footnote disclosure of other material aspects	17	51	19	7	3	3	2.27***	0.95	2.53***	0.94	2.13***	0.94	2.19**

*** significant at 1% (two-tailed test)

** significant at 5%

[1] Test of whether mean is significantly different from neutral (ie. 3)

[2] Wilcoxon-Mann-Whitney test of significant difference between group means

Although 73% favoured lease commitments being analysed by asset type (row 1), there was no clear agreement as to how they might be accounted for. The average response to maintaining the current treatment under SSAP21 (row 4) was not statistically significantly different from neutral.

The suggested deficiency of SSAP21 allowing similar transactions to be accounted for in different ways could be overcome by changing the current treatment of finance leases. However, the average responses to disclosure without capitalisation of either amount and timing of cash flows (row 2), or lease commitments and asset values (row 3), were also not statistically significantly different from neutral.

The FLA, in its response to the new proposals, favoured an 'improved' version of SSAP21 to the suggested approach. It mentioned the option of moving the arbitrary 90% classification test of SSAP21 to 75%, in order to bring the vast majority of UK operating leases onto the balance sheet and to retain the existing principles which are widely understood. On average, respondents were not in favour (mean=2.73, row 6).

Under the new proposals, the capitalised value of all material leases would be recorded on the balance sheet. Respondents were asked the extent of their agreement to this, with and without the footnote disclosure of other material aspects. There was a negative response from 68% to the suggestion of balance sheet capitalisation *without* footnote disclosure (row 7). However, the average response to balance sheet capitalisation *with* footnote disclosure was not statistically significantly different from neutral (row 5). A cross–tabulation of the responses received to both questions is shown in Table 10.18. Only 37% were against capitalisation irrespective of footnote disclosures, whilst 29% were only against capitalisation if other material aspects are not disclosed. Further statistical tests confirmed that footnote disclosure has an effect on whether respondents were in favour or not of balance sheet capitalisation (observed chi-squared=9.23, significant at 1% level). This might suggest that a number of respondents believe that capitalisation alone would adversely effect users decisions, whilst knowledge of other material aspects could mitigate the impact.

Table 10.18: Cross-tabulation of capitalisation with and without footnote disclosures

	Capitalisation *without* footnote disclosure			
Capitalisation *with* footnote disclosure				
	Strongly Disagree/Disagree	**Neutral**	**Strongly Agree/Agree**	**Total**
Strongly Disagree/Disagree	**32 (37%)**	**1 (1%)**	**3 (3%)**	**36**
Neutral	**3 (3%)**	**10 (12%)**	**2 (2%)**	**15**
Strongly Agree/Agree	**25 (29%)**	**6 (7%)**	**4 (5%)**	**35**
Total	**60**	**17**	**9**	**86**

The percentage of respondents is shown in paranthesis

Compared to respondents who were not at all/slightly familiar with the new proposals, those who were moderately/very familiar were in stronger agreement with analysing lease commitments by asset type. Also, they were in stronger disagreement with recording the capitalised value of all leases on the balance sheet without footnote disclosure of other material aspects. The other differences on the basis of new proposal familiarisation were not statistically significant.

In summary, responses provide no clear indication of how account preparers' view the future for lease accounting. The new proposals don't appear to be favoured, but then neither does the current treatment or possible alternatives gain widespread support.

10.8 Respondents' opinions on the implementation of the new proposals

In the Discussion Paper that outlines the new proposals for lease accounting, there appears to be no mention of the implementation process. However, the FLA, in its response to the new proposals, noted that there is no computer software currently available in the UK market that would come close to offering the service required in order to implement the new approach. Immediate implementation could, therefore, be unlikely on practical grounds. The FLA also predicts a switch in commercial behaviour in order to mitigate the impact of operating lease capitalisation on reported measures of financial performance. A phasing in of the new proposals would no doubt assist.

Respondents were asked their opinion on the implementation of the new proposals. Their views, ranked in descending order of agreement, are shown in Table 10.19. There was a high variation in the responses received.

On average, there was a negative response to all of the four options considered. This might suggest a disagreement with the proposals irrespective of how they are implemented. However, all of the options require the immediate determination of the capitalised value of (at the very least) new leases, which may not be perceived as immediately practical.

Table 10.19: Opinions on the implementation of new proposals for lease accounting

KEY: 1-strongly disagree, 2-disagree, 3-neutral,, 4-agree, 5-strongly agree, DK-don't know

		Total Sample								Sub Sample: Not at all/slightly familiar		Sub Sample: Moderately/very familiar		Wilcoxon-Mann-Whitney test
Question asked (abbreviated)		**Response category**						**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Mean[1]**	**Standard Deviation**	**Z value[2]**
		1	**2**	**3**	**4**	**5**	**DK**							
		Percentage of responses												
1	Immediate implementation to new and existing leases	22	30	15	26	6	1	2.61***	1.25	2.26***	1.03	2.81	1.33	-1.84
2	Transition period with the capitalised value of (new and existing) leases disclosed and only incorporated in balance sheet at end of transition period	16	39	23	16	6	1	2.56***	1.12	2.58**	1.03	2.55***	1.17	0.30
3	Transition period with operating lease capitalisation required for new leases	21	34	17	22	4	1	2.55***	1.19	2.97	1.17	2.32***	1.15	2.50**
4	Transition period with operating lease capitalisation required for new leases and disclosure of capitalised value required for existing leases	19	37	19	19	4	1	2.52***	1.14	2.94	1.12	2.30***	1.10	2.57**

*** significant at 1% (two-tailed test)

** significant at 5%

[1] Test of whether mean is significantly different from neutral (ie. 3)

[2] Wilcoxon-Mann-Whitney test of significant difference between group means

Immediate implementation of the new proposals to new and existing leases was the option least rejected (mean=2.61, row 1). This appears to suggest that respondents might not be primarily concerned with delaying implementation to provide an opportunity to minimise balance sheet impact.

Respondents who were moderately/very familiar with the new proposals were in stronger disagreement with a transition period in which operating lease capitalisation would only be required for new leases (row 3), and in addition the disclosure of the capitalised value required for existing leases (row 4). The other differences on the basis of new proposal familiarisation were not statistically significant.

10.9 Further analysis by degree of operating lease use

Respondents with significant leasing activity might be expected to be more motivated to respond to a 'Lease Accounting Reform' questionnaire. Also, it might be expected that they would express stronger views, given the personal impact the new proposals would have. The responses to questions were, therefore, analysed by operating lease use. The use of operating leases was selected on the basis that previous research has documented their predominant and prolific use (Beattie et al., 1998). The accounting treatment of operating leases would change under the new proposals, whilst finance leases are already capitalised under SSAP 21. Further, obtaining a combination of both finance and operating lease use would require a significant amount of data in order to follow an operating lease capitalisation process.

Respondents were classified into one of three equal groups according to their degree of operating lease use. Operating lease use was measured by the ratio of operating lease rental expensed in the profit and loss account[1] to total sales[2]. Ratios for 'low' users ranged from 0 to 0.0132, for 'medium' users 0.0138 to 0.0284, and for 'high'

[1] Obtained by displaying the Extel card for each company in Sequencer as item not available in Datastream
[2] Datastream item 104

users 0.0295 to 0.2042. The questions analysed by low and high operating lease users are shown in Table 10.20, Panel A to Panel K.

For the vast majority of responses, there was no statistically significant difference found between low and high operating lease users. However, low users were in slightly stronger agreement with the suggestion that lease classification under SSAP 21 requires difficult and subjective judgement (row 5, Panel C, Tables 5.20), and one method of lease accounting applicable to all types of tangible assets including land and buildings (row 3, Panel D). High users were in slightly stronger disagreement with the suggestion that the new proposals offered the advantage of writing-off any loss on leased property when it occurs, rather than on vacation of the property (row 2, Panel I).

In relation to specific issues, high users were in stronger disagreement that renewal/purchase option values could be ascertained by comparison with lease rentals for similar agreements without options (row 4, Panel E). The same was true of the suggestion that the fair value of property rights conveyed should be recognised in the balance sheet if minimum lease rentals are unrepresentative (row 3, Panel F). Higher users agreed more strongly with the suggestion that contingent elements to lease agreements restrict access / use, making it incorrect to compare with similar agreements without contingency (row 5, Panel F).

The differences identified could be driven by self-interest in terms of the personal consequences of adhering to such suggestions, or they could result from a greater experience of the present lease accounting treatment. Familiarity with the new proposals was not found to be in any way associated with the degree of operating lease use (Panel A, Table 5.20). On balance, findings appear to suggest that overall the questionnaire responses were not purely the product of self-interest, nor unduly affected by non-response bias on the part of non-leasing users.

Table 10.20: Comparison of low and high operating lease users

Panel A: Familiarity with the new proposals

	Operating lease use			
	Low	**Medium**	**High**	
	(n=29)	(n=30)	(n=29)	
Not at all familiar	14%	3%	3%	
Slightly familiar	34%	20%	35%	
Moderately familiar	45%	60%	48%	
Very familiar	7%	17%	14%	
Chi-Square				6.407
p				0.379

Panel B: Opinions on accounting standards

		Total		**Low**		**High**		
Row	**Question** Accounting Standards are:	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	intrusion into company activities	1.51	0.80	1.57	0.73	1.41	0.69	0.16
2	desirable and impose no significant burden on companies	2.67	1.19	2.70	1.11	2.59	1.15	0.11
3	desirable but do impose a significant burden on companies	3.70	1.10	3.83	1.04	3.90	1.01	-0.07

Panel C: Opinions on current lease accounting standard (SSAP21)

Row	Question	Total		Low		High		Diff
	Agreement with suggested deficiencies of SSAP21:	Mean	Stdev	Mean	Stdev	Mean	Stdev	
1	No single accounting method applicable to all leases	3.61	0.98	3.59	1.05	3.43	1.00	0.16
2	No balance sheet recognition of material operating leased assets and liabilities	3.81	1.04	3.78	0.85	3.68	1.19	0.10
3	Substantially similar leasing transactions can be accounted for in different ways	3.91	0.82	3.89	0.8	3.68	0.91	0.21
4	Leasing transactions deliberately structured for operating lease classification	4.12	0.85	4.19	0.83	3.96	0.88	0.23
5	Lease classification requires difficult and subjective judgements	3.28	0.98	3.41	0.93	2.86	0.97	0.55*
6	Estimation of balance sheet impact of operating leases based on limited information	3.42	0.85	3.5	0.71	3.19	0.96	0.31
7	Impairs comparison between companies	3.21	1.11	3.15	1.17	2.93	1.18	0.22
8	Impairs evaluation of long term financial commitments	3.07	1.05	2.93	0.92	2.75	1.11	0.18
9	Impairs estimation of risks involved in providing finance to lessee companies	2.77	1	2.89	0.91	2.44	1.01	0.45
10	Inconsistency with FRS5	3.3	1.1	3.12	0.91	2.93	1.17	0.19

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Panel D: Opinions on the principles put forward in new lease accounting proposals

		Total		Low		High		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	All material leases recorded on lessee's balance sheet	3.27	1.23	3.29	1.05	3.07	1.33	0.22
2	One accounting method applicable to all leasing transactions	3.32	1.25	3.36	1.16	2.93	1.25	0.43
3	One accounting method applicable to all types of tangible assets including land and buildings	3.07	1.27	3.32	1.19	2.64	1.28	0.68*
4	Lease accounting method equally applicable to leases of tangible and intangible assets	3.01	1.13	3.14	1.15	2.79	1.00	0.35
5	No distinction on the basis of short/insignificant lease agreements	2.96	1.15	2.89	1.17	2.79	1.11	0.10

Panel E: Opinions on the accounting treatment of renewal/purchase options in lease agreements

		Total		Low		High		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	No anticipation of renewal/purchase options	3.71	0.86	3.39	0.94	3.82	0.92	-0.43
2	Recording probable amounts paid under options as an asset and liability at beginning of leases	2.83	1.06	3.25	0.85	2.77	1.14	0.48
3	Renewal/purchase options of significant value recorded as a separate asset and liability	2.57	1.01	2.76	0.97	2.46	0.99	0.30
4	Renewal/purchase option value ascertained by comparison with lease rentals for similar agreements without options	2.66	1	2.96	0.98	2.58	0.95	-0.88*
5	Significant compliance costs involved in obtaining option valuations	4.03	0.84	4.00	0.83	3.93	0.86	0.07
6	Negotiation of short terms of limited asset usage that incorporates renewal and purchase options could ensure furure requirements and minimise balance sheet obligations	3.5	0.76	3.44	0.95	3.56	0.65	-0.12

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Panel F: Opinions on the accounting treatment of contingent lease rentals

		Total		Low		High		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	No balance sheet recognition of contingent lease rentals	3.69	1.00	3.56	0.85	3.86	0.97	-0.30
2	Balance sheet recognition based on estimates of probable amounts paid	2.48	1.05	2.44	0.93	2.46	1.07	-0.02
3	The fair value of property rights conveyed recognised in the balance sheet if minimum lease rentals are	2.94	0.94	3.22	0.70	2.69	1.00	0.53*
4	Comparison with similar lease agreements without contingency to ascertain fair value of property rights conveyed	2.77	1.01	2.96	0.94	2.64	1.03	0.32
5	Contingent elements to lease agreements restrict asset use making it incorrect to compare with similar agreements without contingency	3.29	0.88	2.83	0.78	3.62	0.85	-0.79*

Panel G: Opinions on the accounting treatment of lease rentals that vary in line with prices

		Total		Low		High		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	Assets and liabilities recognised on basis of rentals applicable at beginning of lease term	3.71	1.08	3.63	1.01	3.61	1.10	0.02
2	The difference in initial rentals for lease agreements with and without rent reviews could be misleading if no recognition is made for future rent rises	2.87	0.98	2.89	0.99	2.86	0.95	0.03
3	Assets and liabilities recognised on basis of estimates of rentals that will be paid	2.52	1.09	2.70	1.07	2.56	1.16	0.14
4	Review of estimates that will be paid at each balance sheet date	3.05	1.20	3.04	1.11	3.14	1.24	-0.10
5	Review of estimates that will be paid at rent revision dates	2.95	1.10	3.04	1.14	2.82	1.08	0.22
6	Estimates of liabilities arising through rising prices cannot be measured reliably	3.81	1.08	4.10	1.08	3.79	1.07	0.31
7	Estimates of liabilities arising through rising prices can be obtained only at a significant cost by requiring expert advice	3.28	1.21	3.28	1.31	3.14	1.33	0.14

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Panel H: Opinions on the consequences of recording the fair value of the rights and obligations conveyed by all material lease agreements on the balance sheet

		Total		Low		High		
Row	**Question**	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	Financial flexibility provided by different leasing arrangements would be reflected	2.77	0.96	2.93	0.90	2.57	1.03	0.36
2	Many operating leases would give rise to assets and liabilities on the balance sheet	4.36	0.59	4.32	0.61	4.36	0.62	-0.04
3	Increase in reported measures of gearing	4.18	0.83	4.00	1.04	4.43	0.63	-0.43
4	Significant short-term adverse effect of UK investment and leasing volumes	2.85	1.03	2.92	0.86	2.85	1.17	0.07
5	Renegotiation of borrowing covenants	3.96	0.81	3.84	0.80	4.19	0.88	-0.35
6	Shorter lease terms to minimise obligations	3.41	0.95	3.48	0.80	3.69	0.93	-0.21
7	Additional administrative burden	3.64	0.99	3.71	0.90	3.71	0.94	0.00
8	Additional compliance costs	3.70	0.95	3.64	0.95	3.79	0.92	-0.15
9	Lease finance less attractive	3.37	0.90	3.50	0.88	3.11	0.92	0.39
10	New assets purchased/constructed	2.81	0.77	2.82	0.74	2.78	0.70	0.04
11	Improvement in company comparisons	3.27	1.02	3.54	0.79	3.04	1.13	0.50
12	Improvement in evaluation of long term finance commitments	3.38	1.00	3.37	0.93	3.11	1.10	0.26
13	Increase in estimates of risks involved in providing finance to lessee companies	3.01	0.93	3.08	0.85	3.04	1.10	0.04
14	No effect on assessments of debt paying ability of lessee companies	3.01	0.84	2.85	0.72	2.89	0.85	-0.04
15	Reduction in credit ratings	3.25	0.83	3.42	0.64	3.27	0.92	0.15
16	Reduction in estimates of lessee company's ability to pay future dividends	2.62	0.75	2.65	0.80	2.81	0.75	-0.16

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Panel I: Opinions on the consequences of the new approach applied to the leasing of land and buildings

		Total		Low		High		
Row	**Question**	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	A marked effect on reported gearing	4.17	0.74	4.07	0.68	4.24	0.91	-0.17
2	Advantage of writing off any loss on leased property when it occurs rather than on vacation.	3.22	0.96	3.52	0.87	2.85	1.16	0.67*
3	Avantage of showing increase in value arising from sub-leasing at a higher rent	3.24	0.78	3.26	0.62	3.39	0.83	-0.13
4	Negotiation of shorter term property leases	3.38	1.04	3.37	0.84	3.65	1.09	-0.28
5	Difficulty in funding new property development due to a reluctance to enter long term leases	3.10	1.08	3.19	0.85	3.27	1.22	-0.08
6	Rise in property rental yields to reflect higher risk arising from loss of security of long term tenants	3.07	0.97	2.96	0.84	3.27	1.12	-0.31
7	Difficult and expensive to estimate present value of future property rent increases	3.94	0.95	3.74	0.98	4.00	0.96	-0.26
8	Combined P&L expense(depreciation and interest) in the early years of a new property lease would exceed market rent	3.55	0.88	3.57	0.81	3.64	0.99	-0.07
9	Property purchased rather than leased	2.77	0.85	2.92	0.83	2.63	0.92	0.29
10	Improvement in comparison between companies purchasing and leasing property	3.26	0.97	3.46	0.76	2.85	1.01	0.61

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Panel J: Opinions on lease accounting alternatives

		Total		Low		High		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	Maintaining current distinction between finance and operating leases	3.05	1.23	2.93	1.27	3.14	1.24	-0.21
2	Introduction of 75% threashold in finance lease classification	2.73	0.97	2.42	0.86	3.00	1.02	-0.58
3	Capitalised value of all leases recorded in balance sheet with footnote disclosure of other material aspects	2.95	1.23	3.11	1.13	2.93	1.33	0.18
4	Capitalised value of all leases recorded in balance sheet without footnote disclosure of other material aspects	2.27	0.95	2.18	0.67	2.32	1.19	-0.14
5	All lease commitments and asset values disclosed in footnotes without any capitalisation	3.13	1.2	3.11	1.16	3.14	1.30	-0.03
6	Amount and timing of future lease cash flow commitments without any capitalisation	3.16	1.19	3.18	1.12	3.14	1.27	0.04
7	Analysis of lease commitments by asset type	3.75	0.93	3.79	0.69	3.61	1.20	0.18

Panel K: Opinions on the implementation of new proposals for lease accounting

		Total		Low		High		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	Immediate implementation to new and existing leases	2.61	1.25	2.71	1.18	2.28	1.16	0.43
2	Transition period with operating lease capitalisation required for new leases	2.55	1.19	2.46	1.11	2.41	1.27	0.05
3	Transition period with operating lease capitalisation required for new leases and disclosure of capitalised value required for existing leases	2.52	1.14	2.54	1.17	2.34	1.17	0.20
4	Transition period with the capitalised value of (new and existing) leases disclosed and only incorporated in balance sheet at end of transition period	2.56	1.12	2.50	1.07	2.64	1.28	-0.14

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Chapter 11: Summary and conclusions – Lease accounting reform

The Accounting Standards Board published proposals in December 1999, essentially removing the distinction between finance leases and operating leases, and extending the balance sheet recognition of lease obligations.

The aim of the present study was to investigate the views and opinions of financial statement preparers in relation to lease accounting reform. It was anticipated that the findings would assist in the prediction of reactionary steps preparers might take, and the subsequent impact on the role of leasing in UK corporate financing decisions. The present study contributes to the reform process by alerting the ASB to the views and opinions of individual preparers, and by offering an evaluation of the quality of existing and proposed treatment from a preparers' perspective.

A questionnaire survey was mailed to the finance directors of 415 UK quoted industrial companies in June 2000. The instrument comprised six pages of questions divided into five sections. Close-ended questions were used to request views and opinions on existing and proposed accounting treatment, potential consequences and alternative proposals/implementation issues. Questions were based on an analysis of SSAP 21, the proposed new approach, published comments from interested parties and prior research.

A response rate of 19% was achieved in relation to completed questionnaires (91 usable responses); a further 25% declined to participate, while 56% failed to respond. The sample of respondents is fairly representative of the population of UK quoted industrial companies in terms of size and industry profile. A comparison of responses on the basis of timing and operating lease use appeared to suggest that non-response bias was not an issue. Responses were also analysed to determine if they were influenced by the degree of familiarity with the new proposals for lease accounting.

It was established that preparers' views on lease accounting reform were unlikely to be the product of a general disagreement with accounting standards. However, the

perceived burden generally imposed by accounting standards does appear to be an issue, which may have influenced responses.

According to the preparers of financial statements, SSAP 21 is deficient by allowing transactions to be deliberately structured for operating lease classification, and by permitting similar transactions to be accounted for in different ways. A significant number of preparers implicitly suggested this outcome was the result of deliberate manipulation on account preparers' behalf. The non-recognition of material operating leased assets and liabilities under SSAP 21 was further acknowledged as a deficiency. Therefore, by permitting alternative accounting treatment for similar transactions, including rules open to manipulation, and failing to report economic substance for operating lease transactions, SSAP 21 fails to possess certain characteristics of a quality lease accounting standard. These characteristics are considered necessary to improve decision-making. However, there is no clear opinion from preparers that decision-making, in terms of comparisons between companies and evaluation of long-term financial commitments is currently impaired. Further, preparers actually refuted the suggestion that estimation of the risks involved in providing finance to lessee companies is currently impaired. Perhaps preparers perceive that operating lease obligations from current footnote disclosures are accurately included in market assessments of equity risk. Alternatively, if preparers perceive the current off balance sheet treatment to be to their advantage, they might be reluctant to acknowledge the corresponding detriment to users, for fear of losing it. Certainly, preparers must perceive some advantage in order to contemplate restructuring to avoid capitalisation.

Despite a failure to recognise that SSAP 21 impairs decision-making, preparers were found to support the general principles put forward in the new approach. On average, the application of a single accounting treatment culminating in the balance sheet recognition of all material lease obligations received a favourable response. The new approach was also considered set to improve decision-making. On average, respondents acknowledged an improvement in the evaluation of long-term financial obligations and comparisons between companies. However, responses are somewhat conflicting given that a number of respondents failed to acknowledge that decision-making is currently impaired.

The new approach would mean a change in current accounting treatment of specific features to lease agreements. It has been suggested that the new approach is open to manipulation through the use of renewal options (FLA and The Association of Corporate Treasurers' response to ASB, 2000). The exercise of renewal options is not to be anticipated under the new approach. Balance sheet obligations could, therefore, be potentially minimised by entering lease agreements of short fixed term, whilst guaranteeing operating requirements with the option of renewal. The majority of preparers favoured the new approach. Although it was not anticipated that manipulation could take place, on average respondents agreed that shorter lease terms would result. The new approach to disclose the rights to exercise renewal options separately from the right to use the leased asset was opposed. There was an apparent concern in terms of the method and cost of obtaining option valuations. The new approach proposes the recognition of contingent rentals to the extent that the value of property rights conveyed by a lease agreement is represented. Under SSAP 21, contingent rentals are not considered when determining lease classification, nor included in the balance sheet if finance lease classification is met. Lease classification is potentially open to manipulation with the use of contingent rentals. However, preparers appeared to favour this existing treatment. Further, the suggested method of obtaining the fair value of property rights conveyed, by comparison with similar agreements without a contingency, was thought to be incorrect. The new approach of accounting for future increases in rentals that vary in line with prices was not favoured. The reliability and cost of recognising estimates were of concern.

From a preparers' perspective, the costs of implementing the new approach in relation to accounting for special features, appear to outweigh the benefits. Indeed, potential benefits are denied given the failure to acknowledge that SSAP 21 impairs decision-making, and the favour for retaining certain existing treatments. Findings are hardly surprising given preparers are likely to bear the costs of compliance. However, although users directly benefit from improved information for decision-making, preparers should subsequently benefit, for example in terms of lower cost of capital. The new approach appears to introduce operational difficulties in terms of valuing renewal options and recognising fair value of property rights conveyed by agreements with contingent rentals. Reporting economic substance does not

appear to be achieved if a lease agreement with contingent rentals is valued by comparison with a similar agreement without. The property rights conveyed by agreements with and without contingent rentals were not perceived to be the same. In terms of cost – benefits, operationally, and reporting economic substance, the new approach of accounting for specific features, appears to fall short of quality lease accounting standard. However, findings are biased towards the views and interests of individual account preparers. The views and opinions of individual financial statement users are necessary in order to be fully objective, thus creating an immediate opportunity for additional research.

Financial statement preparers' perceptions of the impact of the new approach on reported *measures of performance appear consistent with prior empirical research* (Imhoff et al., 1993; Beattie et al., 1998). The vast majority of respondents appeared to acknowledge that material lease agreements are currently classed as operating leases. Perceptions in relation to an off-balance sheet advantage from a market perspective are not clear. However, other off-balance sheet advantages were acknowledged. Only 6% of preparers refuted the need for re-negotiation of borrowing covenants in response to increased reporting gearing from operating lease capitalisation.

The new approach is considered to make leasing less attractive to account preparers, in terms of removal of potential off-balance sheet advantages, and the cost of compliance. However, preparers refuted the suggestion that new assets, including property, would be purchased or constructed as a result. Leasing may still be perceived favourably in comparison with alternative sources of finance. Also, access to specific assets may only be possible by lease. Findings appear to suggest that the use of leasing may not necessarily decline in relation to other sources of finance. However, preparers may still attempt to mitigate the impact of operating lease capitalisation in other ways. There is no clear evidence to suggest that lease agreements won't be structured to include short fixed terms in order to minimise balance sheet obligations. Also, a reduction in UK investment and overall use of debt finance cannot be discounted. Perceptions in relation to the impact of the new approach on the UK property market, in terms of rent increases and reduced investments are not clear.

In short, the views and opinions of preparers appear to suggest the current accounting treatment of operating leases holds certain personal advantages. Reactionary steps in relation to the new approach removing such advantages could, therefore, be likely. The ASB should take any opportunity to manipulate the new approach seriously, if the repeated need for reform is to be avoided. Economic consequences in relation to reduced investments and a decline in debt financing also warrant attention, as part of the standard setting process. At this stage, the timing and precise content of an exposure draft is unclear. The ASB appear to have already spent in excess of two years deliberating. It is, therefore, hardly surprising that the present study provides no clear indication of how account preparers view the future for lease accounting. The specific details of the new approach don't appear to be favoured, but then neither does the current treatment or possible alternatives gain widespread support.

Part 3:

Operating lease recognition in the UK market's assessment of equity risk[1]

[1] This part of the thesis forms the basis of a subsequent joint publication:
Beattie, V., Goodacre, A and Thomson, S (2000), 'Recognition versus disclosure: An investigation of the impact on equity risk using UK operating lease disclosures', *Journal of Business Finance and Accounting,* 27(9&10), November/December, pp. 1185-1224.

Chapter 12: Introduction – Market risk study

The research question addressed in the final part to this thesis is 'Do UK investors recognise operating lease obligations from footnote disclosure, in their assessment of equity risk?' The motivation behind this question is to establish whether the suggested 'off-balance sheet' advantage of operating leases really is an actual advantage.

Under SSAP 21, the present lease accounting standard, *Finance leases*, in which substantially all the risks and rewards of ownership of an asset are transferred to the lessee, are required to be capitalised. Therefore, the asset and corresponding liability under a finance lease agreement are recorded on the balance sheet of the lessee. The transfer of risks and rewards is presumed to occur if, at the inception of the lease, the present value of the minimum lease payments amounts to 90% or more of the fair value of the leased asset (SSAP 21, para.15). The required disclosure on leases outside this classification, *operating leases,* is limited to next year's obligations in footnote format, split according to asset category and when the lease agreement is due to expire.

It was the Accounting Standards Committee's (ASC) intention that operating leases amount to nothing more than a cancellable periodic expense. Technical Release 664 (1987) emphasises that lease classification hinges on all aspects of the terms and conditions of the agreement to determine whether substantially all risks and rewards of ownership have been transferred. If operating leases were classed as intended, they would not be expected to have a significant impact on assessments made from company financial statements.

However, for a lease failing to meet the 90% present value test, and in the absence of additional qualitative tests to determine if risks and rewards have been transferred, lease classification becomes a grey area of subjective judgement. In addition, evidence exists of company management's unwillingness to disclose the specific methods used in lease classification (Loveday, 1995), and of their admission to restructuring lease agreements as operating leases to avoid capitalisation (Fawthrop and Terry, 1975; Taylor and Turley, 1985; Drury and Braund, 1990). The use of operating leases, therefore, has the potential to enable a

company to significantly extend both its asset base and liabilities without any balance sheet impact. This could explain the predominant and prolific use of operating leases across both US and UK firms in recent years (Marston and Harris, 1988; Beattie, Edwards and Goodacre, 1998). However, this 'off-balance sheet' advantage to operating leases, is only really an advantage if users do not make reasonably accurate assessments from limited footnote disclosures.

The aim of the present study is to investigate whether a major group of financial statement users, namely investors, recognise operating lease obligations, from footnote disclosures, in their assessment of equity risk. Evidence from previous studies (Imhoff, Lipe and Wright, 1993; Ely, 1995) suggests this to be the case in the US, but not so in Australia (Imhoff and Gallery, 1998). Also, the operating lease evaluation method used by US investors is not clear. There is conflicting evidence as to whether operating leases are evaluated using a simple factor method or a more complex constructive capitalisation procedure. The UK situation has yet to be addressed. There are tentative suggestions (Day, 1986) that 'off-balance sheet' financing is of interest to UK investment analysts. However, there is also evidence to suggest that UK investors/analysts may be less sophisticated than their US counterparts (Arnold, Moizer and Noreen, 1984. p.15, Anderson and Epstein, 1996, p.165). More specifically, UK investors/analysts have been found to make less use of financial ratios, on which operating lease capitalisation could have a significant impact. Therefore, using the previous US evidence to make inferences about operating lease recognition in the UK market's assessment of equity risk may not be valid.

The latest US evidence (Ely, 1995) was based on 1987 data, compared to 1994 in the present study. In Ely's sample, approximately 68% of companies used operating leases, compared to approximately 84% in the present study. The median present value of operating leases scaled by the market value of equity was 0.064 for Ely's sample of companies using operating leases, compared to 0.079 in the present study. Therefore, operating leases appear to be used more extensively across a wider range of companies in the UK, providing an important setting in which to explore this issue.

Establishing whether operating lease obligations are currently recognised in the UK capital market's assessment of equity risk, and how they are evaluated, will indicate whether operating leases really carry an 'off-balance sheet' advantage[1]. It will also assist in predicting the impact on share price of anticipated new UK accounting regulation that will bring many operating leases on to the balance sheet. However, it is pertinent to note that investigating the degree of 'off-balance sheet' market advantage and the exact impact of capitalisation on share price is beyond the scope of this study. Only a comparison between the operating lease estimates made by investors/analysts and actual valuations from lease contracts would indicate precisely the accuracy of current evaluations. Even then, valuations could be inaccurately impounded into share prices. The basis of this study is, therefore, an indirect test to determine whether there is an association between equity risk and an operating lease adjustment to financial risk. Two alternative operating lease evaluation methods (constructive capitalisation and the factor method) are considered in order to establish which method appears to be employed by UK investors/analysts. This study also investigates whether either company size or the degree to which operating leases are used has any influence on operating lease recognition in the UK market's assessment of equity risk.

The remainder of this part is structured as follows: Chapter 13 discusses previous related research and Chapter 14 describes the research methods employed in this study. Chapter 15 reports results and Chapter 16 offers a summary and conclusions.

[1] This study investigates the 'off-balance sheet' advantage of operating leases from a market perspective. However, other 'off-balance sheet' advantages may arise, for example, if operating lease obligations are currently excluded by lenders when imposing restrictive covenants or ignored by other account user groups. These other possible 'off-balance sheet' advantages are beyond the scope of this study.

Chapter 13: Previous research – Market risk study

Two areas of previous research are pertinent to an investigation of operating lease recognition in the UK market's assessment of equity risk. First, the ongoing debate of recognition on the face of financial statements versus footnote disclosures. Second, previous findings specifically related to equity risk.

13.1: Recognition versus disclosure

Recognition is the process of incorporating an item into the financial statements, whereas disclosure refers to information about the items in financial statements and their measures, which may be provided in notes (FASB, 1984). SSAP 21 currently requires the recognition of finance leases and the disclosure of next years operating lease obligations. In view of the predominant and prolific use of operating leases in recent years (Beattie et al., 1998), information in relation to significant lease obligations is likely embedded in the notes to the financial statements of many companies. Such information is disclosed alongside the vast quantities of information required under other UK accounting standards. According to Johnson (1992), financial statements are overloaded with disclosure information, causing critical information to be obscured. In addition, standard setters are also of the opinion that the disclosure of information is not a substitute for recognition (FASB, 1984).

The equivalence of recognition versus disclosure has been empirically tested in two ways. Firstly, by investigating if 'off-balance sheet' disclosures are incorporated in assessments of market risk. Previous studies adopting this approach are presented in Section 13.2 below. Secondly, the impact of recognition versus disclosure on financial statement users has been investigated using an experimental/survey approach.

Wilkins and Zimmer (1983a) tested the reaction of investment analysts to the alternative accounting treatment of lease obligations. A sample of 60 Singapore-based subjects divided into two groups, were presented with the financial statements of two hypothetical companies. Both companies reported extensive lease obligations, however one company was moderately levered, in comparison to the other which was highly levered. One group of analysts received financial statements

with finance lease capitalisation and footnote disclosure in accordance with SFAS 13, whereas the other group received financial statements with lease obligations confined to footnote disclosures. Both groups received the same information, only the way the information was presented differed. Subjects were asked to predict future earnings and share price. Although the share valuations made by analysts were unaffected by alternative lease reporting methods, this was not the case in respect to earnings predictions, which may rely more heavily on accounting information. In a similar experiment, Munter and Ratcliffe (1983) presented 81 investment managers with three sets of financial statements, differing only in the treatment of lease obligations. In one set of statements, all lease agreements were capitalised. In the second set, only finance leases were capitalised, and in the third set lease obligations were excluded from the balance sheet, and all information was disclosed in notes. Findings suggested that lease accounting treatment did influence the subjects' investment choice. Investment managers were found to prefer to invest in firms that capitalised finance leases or had no lease obligations on balance sheet, rather than the firm that capitalised all leases.

Wilkins and Zimmer (1983b) investigated the impact of lease accounting on decisions made by another group of financial statement users, namely lenders. The subjects, 52 corporate loan officers from 35 international banks, were presented with the financial statements of two companies differing in financial leverage, and asked to assess repayment ability. The loan officers were divided into three groups. The first group received financial statements with finance lease capitalisation and footnote disclosure in accordance with SFAS 13. The statements presented to the second group confined lease obligations to footnote disclosure, and the third set of statements replaced lease obligations with term loans. Findings appeared to suggest that lenders credit evaluations and subsequent decisions were affected by the difference in the level of leverage reported by the two companies, but not by the method of lease accounting or by the source of finance. Although only four of the participants who received financial statements with footnote disclosure performed a formal adjustment to capitalise lease obligations, the remainder appeared to cognitively adjust statements. Wilkins (1984) adopted the same approach for a larger sample of loan officers (117 officers from 75 banks). He attempted to capture decision-making in the subjects' usual environment by removing the presence of a

researcher and providing more realistic/representative case studies. His findings also indicated that the decisions by loan officers were unaffected by the method of lease accounting.

In contrast, Harper, Mister and Strawser (1987) found the decisions by two groups of sophisticated and non-sophisticated financial statement users to be affected by the recognition versus disclosure of information. They examined whether pension information included in a footnote would receive the same attention as it would if it were included as a balance sheet liability. Two versions of a hypothetical balance sheet were presented to 51 bankers attending a commercial lending seminar (sophisticated users), and 82 undergraduate accounting students (non-sophisticated users) The subjects were asked to indicate an amount of debt when evaluating the debt carrying ability of the company. A greater number of subjects were found to include pension obligations in debt/equity ratios when the information was presented in the balance sheet. However, there did not appear to be any difference in the decisions made between the two user groups. Harper et al. thus concluded that footnote disclosure was not adequate for users of financial statements, irrespective of their degree of sophistication.

Gopalakrishnan and Parkash (1996) examined whether the effects of recognition versus disclosure depends on the type of information disclosed (i.e. lease obligations or pension obligations etc.), in addition to whether the effect differs depending on the class of user. Usable survey responses were obtained from 106 Fortune 500 firms in their capacity as borrowers, and 135 insurance firms and banks in their capacity as lenders. Perceptions of the debt equivalence of recognised obligations (capital leases, deferred tax liabilities and minimum pension liabilities) versus disclosed obligations (operating leases, unfunded projected pension obligations and unfunded post- retirement benefit obligations) were investigated. Respondents were asked the extent these recognised and disclosed items were considered as debt for the purposes of complying with and monitoring accounting-based covenants. Findings appeared to suggest that both borrowers and lenders' perceptions of debt differed between obligations recognised in the balance sheet and those disclosed in footnotes. In particular, over 90% of total respondents perceived capital leases to be debt equivalent. However, 64% of borrowers indicated that

operating lease obligations were never considered as debt equivalent, compared to 15% of lenders. Gopalakrishnan and Parkash (1996) thus concluded that footnote disclosures are not an adequate substitute for recognition, and that lenders are more likely to regard disclosed obligations as debt than borrowers.

On balance, previous evidence appears to suggest that the recognition of obligations in financial statements versus footnote disclosure could well affect the decisions made by analysts, investors, lenders and borrowers. Obligations recognised on balance sheet appear to attract more attention. Therefore, as operating leases are currently disclosed 'off-balance sheet', they might be expected to have less impact on market risk than if they were otherwise capitalised.

13.2: Equity risk

The return from an equity investment is sensitive to unanticipated events. The degree of sensitivity, defined as *equity risk*, arises from the nature of a firm's assets and operating activities *(business risk)* and its financial policy or capital structure *(financial risk).*

Elements of both business risk and financial risk affect the majority of equities to some degree. For example, most returns are at risk from an increase in inflation. In this situation, business risk and financial risk constitute *systematic* or *market risk.* However, some elements of business or financial risk affect only a small number of equities. For example, industrial action by a firm's workforce would only influence its own returns and possibly the returns of its primary suppliers/competitors. When only a small number of equities are affected, business and financial risk constitute *unsystematic* or *asset specific risk.* Both systematic risk and unsystematic risk are reflected in variations in company returns over time, thus providing a *total equity risk* measure.

Several US empirical studies have modelled equity risk as a function of business (operating/asset) risk and financial risk (Beaver, Kettler and Scholes, 1970; Hamada, 1972; Bowman, 1980a; 1980b; Dhaliwal, 1986). Business (operating/asset) risk has been proxied by accounting beta, the covariability of a

firm's earnings with the accounting earnings of the market portfolio (Bowman, 1980a; Dhaliwal, 1986). As an alternative/extension to this model, industry dummy variables have been introduced (Bowman, 1980a; Imhoff et al., 1993) to control for operating/asset risk differences across firms. Financial risk has been proxied by financial leverage, which has been found to have a significant relationship with equity risk.

Previous studies that model the determinants of equity risk have focused either on total equity risk (standard deviation of returns) or systematic/market risk (beta). Those considering systematic risk take the view that investors need face only the risk related to market movements, since firm-specific risk can be eliminated through holding a diversified portfolio. However, others suggest that total equity risk is more consistent with accounting measures of risk, such as financial leverage, because accounting measures of risk reflect both systematic and individualistic risk components (Beaver et al., 1970).

The majority of previous studies have considered the relationship between equity risk and leverage ratios determined simply from reported balance sheet figures (Beaver *et al.*, 1970; Hamada, 1972). Less evidence exists concerning information that impacts upon leverage ratios but is disclosed outside the balance sheet. Only five studies have been identified (four conducted in the US and one in the Australian market settings) that examine the value- relevance of disclosures outside the balance sheet. Table 13.1 summarises the proxies used to represent equity risk, business (operating/asset risk) and financial risk, to highlight the essential differences between these studies. Bowman (1980) and Dhaliwal (1986) focused on market/systematic risk, whilst Imhoff et al. (1993), Ely (1995) and Imhoff and Gallery (1998) focus on total equity risk.

Dhaliwal (1986) examined the relationship between market (systematic) risk and another type of liability, unfunded pension obligations, disclosed but not recorded in company balance sheets. He found that the explanatory power of his model relating market (systematic) risk to financial and business risk (represented by accounting beta) improved when unfunded pension liabilities were included in his measure of

Table 13.1: Proxies used in US and Australian market based studies of the value relevance of disclosures made outside the balance sheet.

		Equity Risk	Business Risk	Financial Risk	Outside Disclosures
Dhaliwal (US)	1986	Market/Systematic Risk: Beta	Accounting Beta	Book value of debt to market value of equity	Unfunded pension liabilities
Bowman (US)	1980	Market/Systematic Risk: Beta	Accounting Beta	Market value measure of debt to equity	Present value of finance leases disclosed prior to capitalisation requirements
ILW (US)	1993	Total Risk: Standard deviation of monthly returns.	Sample of companies in the same industries	Book value of debt to book value of total assets	Operating lease liabilities
Ely (US)	1995	Total Risk: Standard deviation of monthly returns.	Standard deviation of annual return-on-assets ratio.	Book value of debt to market value of equity	Operating lease liabilities
Imhoff & Gallery (Australian)	1998	Total Risk: Standard deviation of monthly returns.	Standard deviation of annual operating income to sales ratio	Book value of debt to book value of total assets	Operating lease liabilities

financial leverage. Also, there was no significant difference in the relationship between market-perceived risk of the firm and unfunded pension liabilities (disclosed outside the balance sheet), compared to debt and other liabilities (disclosed on the balance sheet). He concluded that capital market participants appear to view unfunded pension liabilities in the same light as other debt liabilities when assessing the market risk of a firm. Bowman (1980a) examined the relationship between market risk and the present value of finance leases reported to the SEC under ASR-147 prior to SFAS13 requiring finance lease capitalisation. He found finance leases to make a significant contribution to the association tests on market risk, concluding that ASR-147 lease data was reflected in security prices.

The three remaining studies have specifically tested whether *operating* lease obligations are recognised in the US and Australian markets' assessment of equity risk. First, Imhoff et al.(1993) (hereafter ILW) examined the relationship between total risk reflected in stock price volatility and the debt-to-asset leverage ratio. Their analysis focused separately on two industries that were identified as having large amounts of long term operating leases, the airline and grocery industries. Firms in the same industry were used to provide a natural control for cross-sectional differences in operating risk. ILW use footnote disclosures to 'constructively capitalise' operating leases in line with capitalised finance leases, in order to calculate the appropriate adjustment to leverage ratios. ILW evaluate two alternative methods of operating lease evaluation. First, their method of operating lease capitalisation involved applying estimates of average total life, remaining life and interest rate of firm's operating lease agreements to disclosures of minimum future operating lease payments. Second, they use an ad hoc multiplier adjustment for operating leases, 'factor method'. Houlihan and Sondhi (1984) suggest that financial analysts may far more commonly employ the factor method. This method involved multiplying annual operating lease rentals by a factor of 8 to estimate the total operating lease liability.

Dresdner Kleinwort Benson (1998) note that the factor method is also one approach used by UK credit analysts and leasing experts to obtain a rough approximation of the total liability to which an annual operating lease rental obligation would equate. They suggest that multiplying the operating lease rental by 8 equates, for example,

to discounting a constant rental charge at a rate of 8.5% over a 14 year period. However, previous researchers (Gant, 1959; Axelson, 1971) have noted an over-estimation of lease obligations by the factor method. Houlihon and Sondhi (1984) suggested that the problem of over-estimation has magnified over time, and could be detrimental to lessees by making them appear far more leveraged than they actually are. Dresdner Kleinwort Benson also question the accuracy of the 'factor 8' approach. They analytically identified a range of factor values from 6.9 to 10.2 times for leases maturing between the next ten to twenty years.

Initially, ILW estimated the correlation between firm risk and unadjusted and adjusted leverage ratios. Subsequent investigation used OLS regression analysis to determine whether the explanatory power of a model expressing the relationship between firm risk and financial leverage was improved when the operating lease adjustment to debt to asset ratio was introduced. ILW's data contained several annual observations for each firm. However, they used the mean measure of risk and leverage for each firm having three or more annual observations. This was, purportedly, to avoid the overstatement of the significance levels of pooled time-series cross-sectional tests, arising because firm-year observations are not independent. However, the use of averages significantly reduces sample size and the variability between observations. ILW used the natural logarithm of the standard deviation of returns, as their dependent variable, in order to avoid any misspecification due to non-normality or heteroscedasticity.

The significant incremental explanatory power of ILW's operating lease adjustment supports the notion that US investors/analysts do appear to make use of 'off-balance sheet' operating lease disclosures when assessing a firm's risk. However, ILW found constructive capitalisation of operating leases to explain *less* of the intra-industry variation in risk than the ad hoc factor method. This implies that the operating lease valuation method that appears to be used in practice may not be accurate and is, therefore, a poor substitute for disclosing the true effect on the balance sheet. If these findings were to be repeated in the UK, then the anticipated regulation requiring operating lease capitalisation might be expected to impact on firm risk assessments and hence be reflected in share price.

Second, Ely (1995) extended the work of ILW by explicitly controlling for cross-sectional variation in operating/asset risk, which allowed her to undertake an analysis across rather than within industries. The standard deviation of return on assets was used to represent operating/asset risk, which also allowed Ely to examine whether investors include operating leases in the return on assets (ROA) ratio, affecting equity risk through asset risk. In line with ILW, Ely also explored two alternative methods of evaluating operating leases. The first method, a variant of the constructive capitalisation method, involved estimation of the present value of operating lease obligations. In contrast to ILW, Ely assumed that firms enter into leases each year, causing the number of years since inception to be irrelevant. The validity of this assumption in the UK context is questionable. The operating lease obligations disclosed in footnotes relating to agreements having less than one year, between one and five years and over five years unexpired vary substantially (Edwards, 1997). This indicates that UK companies don't appear to maintain a constant proportion of operating lease finance. However, the general assumptions made by Ely in her operating lease capitalisation process were shown to be robust in the US context. (The correlations between her operating lease measure and alternative measures based on firm-specific estimates of lease term, interest rate and annual payments exceeded 0.9). Ely's second method involved multiplying the annual rental expense by a constant (both 6 and 8 were used).

Ely used OLS regression analysis to estimate her model relating equity risk to the accounting ratios 'return on assets' and 'debt to equity'. The debt to equity ratio was split according to debt reported on the balance sheet and operating lease liability estimated from footnotes. She found a significant relationship between equity risk and the debt to equity adjustment for operating leases. Also, the relationship between equity risk and asset risk (measured as the standard deviation of ROA) was found to vary significantly when an operating lease adjustment was made to ROA. Ely's results provide additional evidence that US investors include operating lease asset and liability values when assessing equity risk. However, in contrast to ILW, Ely found the variation in risk explained by constructive capitalisation to be no different from that explained using the rental-based factor method.

Third, Imhoff and Gallery (1998) examined whether the Australian capital market incorporates off-balance sheet operating lease liabilities into risk assessments. The methodology followed was closely based on that of ILW (1993). However, there were insufficient firms in any single industry in Australia to provide control for operating/asset risk differences across firms. Therefore, firms across industry were considered using the standard deviation of the ratio operating income to sales to control for the effects of operating risk. Two alternative lease evaluation methods were also considered: ILW's constructive capitalisation process and the simple factor method of 8 times rent expense. In contrast to US evidence (ILW, 1993; Ely, 1995), Imhoff and Gallery found no evidence to suggest that Australian market participants adjust firm risk in recognition of operating lease disclosures, irrespective of the method of lease evaluation used.

Overall, there is convincing evidence that US investors do recognise operating leased assets and liabilities in their assessments of equity risk. However, the nature of the operating lease evaluation method used by them is less clear. The conflicting evidence concerning whether the constructive capitalisation method or the factor method is used to evaluate operating leases could arise from alternative controls for operating/asset risk differences across firms. Ely employed the standard deviation of ROA to control for differences between firms across industries, whilst ILW considered firms in the same industry. A combination of both controls might assist in the resolution of US evidence. Also, a process of diagnostic testing to assess the robustness of regression estimates would indicate the reliability of to the findings of both studies. The present study considers such issues.

At present, there is no specific evidence to suggest that operating leases are recognised in UK investor/analyst's assessment's of equity risk. There are tentative suggestions (Day, 1986) that 'off-balance sheet' financing is of interest to UK investment analysts. Also, operating lease recognition could be inferred in the UK on the basis of the above US evidence. However, there are suggestions that investors/analysts may be less sophisticated in the UK than in the US[2]. Arnold *et al.* (1984) found significant differences to exist between the security appraisal procedure performed by UK and US analysts. US analysts were found to consider

financial results and make forecasts over a longer time scale. They were also found to undertake more fundamental analysis and to rate the profit and loss and balance sheet as more influential than UK analysts. More specifically, US analysts place more importance on cash flows and financial ratios, on which operating leases could have major impact. In addition, Day's (1986) evidence from a small sample of UK investment analysts suggests that company accounts are not seen as containing any price sensitive information. On balance, the UK situation in respect of operating lease recognition by investors/analysts seems worthy of investigation.

[2] A study by Anderson and Epstein (1996, p.165) found the varying degrees of self reliance by shareholders in different countries, with shareholders in the US being more self reliant than in Australia and New Zealand.

Chapter 14: Research methods – market risk study

This chapter specifies the model and the original variable definitions used to investigate operating lease recognition in the UK market's assessment of equity risk. Alternative proxies used in the model are also described. Finally, the model to test if UK investors/analysts adjust the ROA ratio in accordance with operating lease capitalisation is specified.

14.1: Model specification

The following model was used to investigate whether operating leases are recognised in the UK market's assessment of equity risk. It derives from the financial theories of Modigliani and Miller (1958, 1963) and was applied by Ely (1995) in her investigation of the US market's recognition of operating leases.

Equity risk is said to have the following relationship with asset/operating risk and financial risk (assuming riskless debt, constant interest rates and firm values equal to average expected earnings divided by some appropriate rate of return):

$$\begin{matrix}\text{Equity} \\ \text{Risk}\end{matrix} = (1 + (1 - \text{Marginal Tax Rate}) * \begin{matrix}\text{Financial} \\ \text{Risk}\end{matrix}) * \begin{matrix}\text{Asset} \\ \text{Risk}\end{matrix}$$

$$= \begin{matrix}\text{Asset} \\ \text{Risk}\end{matrix} + (1-t)\begin{matrix}\text{Financial} \\ \text{Risk}\end{matrix} * \begin{matrix}\text{Asset} \\ \text{Risk}\end{matrix} \qquad (1)$$

where t is the marginal rate of tax.

Both financial and asset risk would change if the business assets and liabilities acquired under operating lease agreements were recognised on the balance sheet.

Ely (1995) defines equity risk as the standard deviation of monthly stock returns (σ_s); financial risk as the leverage ratio, book value of debt to the market value of equity (D/E) and asset risk as the standard deviation of annual ROA ratio (σ_{ROA}). Substituting these definitions into equation (1):

$$\sigma_s = \sigma_{ROA} + (1-t)*D/E * \sigma_{ROA} \qquad (2)$$

If operating leases were capitalised, the leverage ratio D/E would be adjusted as follows:

$$\text{D/E adj} = \frac{\text{D rep}}{\text{E}} + \frac{\text{PVOL}}{\text{E}} \qquad (3)$$

where D rep= debt reported on the balance sheet, and PVOL= present value of operating lease liabilities

This adjustment ignores the potential changes in deferred tax arising from operating lease capitalisation. The operating lease rental is tax deductible, and capitalisation involves adjusting income for the difference between operating lease rental and an interest charge plus depreciation via deferred tax. However, according to Ely (references therein), this tax effect should be ignored because 'analysts frequently adjust for deferred taxes and research has shown that an earnings measure which excludes deferred taxes correlates more highly with stock returns'.

Equations (2) and (3) are combined to test whether equity risk reflects an adjustment to financial risk for operating lease liabilities.

$$\sigma_s = \sigma_{ROA} + (1\text{-}t)*\frac{\text{D rep}}{\text{E}} * \sigma_{ROA} + (1\text{-}t)*\frac{\text{PVOL}}{\text{E}} * \sigma_{ROA} \qquad (4)$$

Rearranging into a cross-sectional regression model:

$$\sigma_s = \beta_0 + \beta_1\sigma_{ROA} + \beta_2\frac{\text{D rep}}{\text{E}} *\sigma_{ROA} + \beta_3\frac{\text{PVOL}}{\text{E}} *\sigma_{ROA} \qquad (5)$$

If operating leases are recognised in the UK market's assessment of equity risk, then the coefficient β_3 would be expected to be significantly positive. Considering the relationship between equity risk and asset and financial risk expressed in equation (1), β_0 and β_1 are expected to equal 0 and 1 respectively, and β_2 should equal β_3 and equal (1-t). However, Ely points out why this may not occur empirically. Accounting methods could cause σ_{ROA} to be consistently higher or lower than an appropriate asset risk measure. Also, debt comprises various liabilities which may not all have the same relationship with equity risk.

14.2: Alternative proxies

Although theory depicts financial risk as a function of the ratio of market value of debt to the market value of equity, many empirical studies have used book values for the numerator and/or denominator. Ely and others have used the book value of debt because of the difficulty in finding reliable market values for many debt elements/components and the impossibility of finding values for some. This study considers three alternative book value definitions of debt, in response to Ely's suggestion that all liabilities may not have the same relationship with equity risk. ILW (1993) argue that using the book value of equity is not just a data issue but a statistical one. It creates econometric problems because it can be near zero or negative for a given firm-year observation. Therefore, they used the book value of assets as their leverage ratio denominator. The use of debt to total assets to represent financial risk was also considered in this study.

An estimate of the present value of operating lease liabilities, obtained from a constructive capitalisation process adopted by Beattie *et al.* (1998) was initially employed. However, the regression model was also estimated using the annual operating lease rental expense, which captures the factor method purportedly employed by analysts/investors.

14.3: ROA ratio and operating lease liability

Operating lease capitalisation affects the proxy used in this study for operating/asset risk, through the ROA ratio. The following model was used to investigate whether UK investors/analysts adjust ROA for operating leases when assessing operating/asset risk (Ely, 1995).

$$\text{ROA rep} = \text{ROA adj} * \rho \qquad (6)$$

where:

$\text{ROA rep} = \frac{\text{EBI rep}}{\text{TA rep}}$ (Earnings before interest and total assets reported in 1994 financial statements)

$\text{ROA adj} = \frac{\text{EBI adj}}{\text{TA adj}}$

EBI adj = EBI rep + Operating lease rental – depreciation

TA adj = TA rep + Operating leased assets

ρ = multiplicative difference between the two

The value of ρ was calculated for each company in the sample. Companies were then classified into one of three groups; companies without operating leases (ρ=1), companies with ρ values below 1 (denoted L) and companies with ρ values above 1 (denoted H).

In the original regression model σ_{ROA} was based on reported figures. If $\sigma_{ROAadj} = 1/\rho * \sigma_{ROArep}$ then β_1, β_2 and β_3 are functions of ρ. If investors adjust ROA for operating leases when assessing operating/asset risk, then there would be significant differences across firms in the coefficients β_1, β_2 and β_3 consistent with the estimates of ρ. The dummy variables L and H were included in the following model: If ρ was below 1, L took the value of 1 and H the value of zero, and vice versa. If ρ was 1 and a company had no operating leases, L and H were both 0.

$$\sigma_s = \beta_0 + \beta_1\sigma_{ROA} + \beta_{1L}\sigma_{ROA} * L + \beta_{1H}\sigma_{ROA} * H + \beta_2\frac{D\,rep}{E} * \sigma_{ROA} + \beta_{2L}\frac{D\,rep}{E} * \sigma_{ROA} * L + \beta_{2H}\frac{D\,rep}{E} * \sigma_{ROA} * H + \beta_{3H}\frac{PVOL}{E} * \sigma_{ROA} * H + \beta_{3L}\frac{PVOL}{E} * \sigma_{ROA} * L \qquad (7)$$

In effect, the variable (PVOL / E) * σ_{ROA} is automatically excluded from the model for companies having no operating leases since PVOL is zero; thus β_3 cannot be estimated.

14.4: Data source and variable definitions:

The data employed in this study, originally obtained from Datastream and microfiche supplied by Companies House, was available from a database, constructed by Edwards (1997) to determine the impact of constructive operating lease capitalisation on key accounting ratios. The database contains selected profit and loss and balance sheet items, together with operating lease obligations extracted from the footnotes to the financial statements. It spans the years 1981 to 1994 for a sample of 300 UK commercial and industrial companies. (See Appendix 30 for an explanation of how the sample was selected.)

Additional variables required for this study, including stock returns, market returns and the market value of equity were collected from Datastream and added to the original database.

The proxy variables used, their definitions and, where appropriate, their Datastream identifications, are summarised in Table 14.1 and described below. The model was estimated for 1994, this being the most recent year in the database. Leverage ratios and adjustments for operating lease capitalisation were, therefore, calculated using 1994 year end figures. Equity risk (σ_s) was estimated using 60 monthly returns prior to year end dates in 1994. Ely calculated operating/asset risk as the standard deviation of annual ROA over a 10 year period, with ROA calculated by dividing earnings before interest and taxes by the beginning book value of total assets for a given year. At the outset of this study, it was anticipated that the requirement of 10 years ROA could seriously affect sample size. Therefore, operating/asset risk based on 7 years ROA was also considered. Moreover, in addition to calculating the variable with opening total assets (like Ely), average total assets, commonly used in ratio analysis[3], was also considered. Therefore, initially four definitions existed for the standard deviation of ROA representing operating/asset risk.

14.5: Operating lease adjustment

Method (i): Constructive capitalisation

An estimate of the present value of operating leases was available from the capitalisation process adopted by Beattie et al. (1997). It closely followed that of Imhoff, Lipe and Wright (1991), adapted for differences in UK accounting regulation. (In the UK, only next year's operating lease rental commitments need be disclosed, compared to total minimum rental commitments in the US). The development of the process was assisted by some companies voluntarily exceeding minimum disclosure requirements or by disclosing additional information as a result

[3] Brealey and Myers (1996, p772) report that since profits are a flow figure and assets a snapshot figure, analysts commonly divide profits by the average of assets at the start and end of the year. The reason they do this is that a firm may raise large amounts of new capital during the year and then put it to work. Therefore, part of the year's earnings is a return on new capital.

Table 14.1: Variable definition and Datastream/other identifications

Variable	Definition	Datastream/Other identification
Equity risk	Standard deviation of monthly returns for 60 months prior to each company's year end date in 1994.	**MRt = (RIt - RIt-1)/RIt-1** MRt =monthly return for month t RIt= returns index at end of month t RIt-1 = returns index at end of month t-1
Operating/asset risk	Standard deviation of return on assets. (Four alternative definitions based on the time period over which ROA calculated, 7 and 10 years and whether total assets at start of 1994 or average over 1994.	**ROA = (157 + 153) / 392** 157 = Pre-tax profit adjusted 153 = Interest payable 392 = Total assets
Leverage ratios: Total debt / Equity	Long term loans, short term loans and overdrafts divided by market value of equity on year end date 1994.	**(321 + 309) / HMV** 321 = Total loan capital 309 = Borrowing repayable within 1 year HMV = Historical market value of equity
Long term debt / Equity	Long term loans divided by market value of equity on year end date 1994.	**321 / HMV**
Net debt / Equity	Long term loans, short term loans and overdrafts less cash equivalents divided by market value of equity on year end date 1994.	**(321 + 309 - 375) / HMV** 375 = Cash equivalents
Total debt / Assets	Long term loans, short term loans and overdrafts divided by total assets.	**(321 + 309) / 392** 392 = Total assets
Operating lease liability adjustment: PVOL / Equity	Present value of operating lease liability for y/e 1994 estimated using constructive capitalisation process divided by market value of equity on year end date 1994.	**PVOL / HMV**
Operating lease rental / Equity	Operating lease 1994 P & L expense divided by market value of equity on year end date 1994. OR Operating lease obligations disclosed in footnotes at y/e 1994 divided by market value of equity on year end date 1994.	**OPLrental / HMV**
PVOL / Assets	Present value of operating lease liability for y/e 1994 estimated using constructive capitalisation process divided by total assets.	**PVOL / 392**

of their quotation on the US stock exchange. On the basis of evidence from 13 companies, the average remaining life of operating leases due to expire between one and five years was estimated at 3 years for both land and buildings and other assets; and, for the over five year category, sixteen and seven years respectively. The remaining life for leases due to expire within one year can obviously not exceed one year. Having investigated short term borrowing rates over the study period, an interest rate of 10% was adopted. The operating lease liability could therefore be estimated, by discounting next year's operating lease commitments at 10%, according to the respective remaining life of each portion of the commitment. (See Appendix 31 for a numerical illustration).

The operating lease rental, depreciation and the written down value of operating leased assets were available from the capitalisation process adopted by Beattie et al.(1997). The written down value of operating leased assets was determined by applying company specific ratios, of asset balance to liability balance, to estimates of operating lease liability. (See Appendix 32 for a numerical illustration).

Method (ii): Factor method

The factor method of estimating operating lease liability by UK analysts/investors involves multiplying the operating lease expense by 8 (Dresdner Kleinwort Benson, 1998). However, in a regression model the relationship between equity risk and operating lease adjustment, based on the factor method, would be a function of the operating lease expense which is individual to each company, rather than the scale factor of 8 which is common to all. Therefore, the factor-based operating lease adjustment used was simply the operating lease rental expensed in the profit and loss account in 1994. However, this could include payment for agreements expiring in 1994, for which there is no future liability. Also, it could contain a contingent element, based, for example, on sales, and therefore does not reflect the minimum future operating lease liability. The operating lease expense for 1994 would also not fully reflect the future liability of lease agreements entered into towards the latter of 1994. Therefore, as an additional test, an adjustment based on next year's operating lease obligations as at the year-end 1994, disclosed in footnotes, was also used.

Chapter 15: Results – Market risk study

15.1 Introduction

The base model used in this study considers total risk (proxied by the standard deviation of monthly returns) as a function of operating/asset risk (proxied by the standard deviation of annual ROA) and financial risk (proxied by the ratio book value of debt to the market value of equity). The operating lease adjustment to financial risk was measured by the ratio of operating lease liability (estimated from the constructive capitalisation process developed by Beattie et al., 1998) to the market value of equity. Initially, four variations in the measure of the standard deviation of ROA were employed. The development of the base model with diagnostic testing to establish the robustness of regression estimates is presented in section 15.2.

A number of variants to this base model were estimated. First, the relationship between equity risk and an operating lease adjustment based on the factor method is examined in section 15.3. Second, Ely (1995) suggests that a firm's debt comprises various elements which may not all have the same relationship with equity risk. In response, the relationships between equity risk and alternative measures of financial risk are considered in section 15.4. Third, additional control for operating/asset risk differences across firms is addressed in section 15.5. Fourth, section 15.6 reports an analysis by operating lease intensity and, finally, section 15.7 examines the relationship between the ROA ratio and operating lease liability.

A comparison with previous US studies of operating lease recognition in investors/analysts assessment's of equity risk (ILW, 1993; Ely, 1995) is given in section 15.8.

15.2 Base model development with diagnostic testing.

Table 15.1 provides summary statistics of key variables. If operating/asset risk is defined as the standard deviation of ROA over 10 years, a sample of 125 companies, possessing all relevant data was available. If the standard deviation of ROA over 7 years was used, the sample size increased to 162. The mean value for all the variables is higher for the larger sample (n=162), especially in the case of financial risk. The maximum value for financial risk was approximately 163

Table 15.1: Summary statistics

Panel A: Sample with operating/asset risk calculated over 10 years (n=125)

Variable	Mean	Std Dev	Minimum	Maximum
Equity Risk	0.106	0.054	0.033	0.506
Operating/Asset Risk (using average TA)	0.049	0.044	0.004	0.294
Operating/Asset Risk (using opening TA)	0.069	0.008	0.008	0.669
Financial Risk	0.554	1.276	0.000	11.268
Operating Lease Adjustment	0.276	0.818	0.000	6.319

Panel B: Sample with operating/asset risk calculated over 7 years (n=162).

Variable	Mean	Std Dev	Minimum	Maximum
Equity Risk	0.115	0.062	0.033	0.506
Operating/Asset Risk (using average TA)	0.054	0.048	0.003	0.303
Operating/Asset Risk (using opening TA)	0.071	0.079	0.006	0.773
Financial Risk	1.485	12.802	0.000	162.789
Operating Lease Adjustment	0.280	0.763	0.000	6.319

Notes:
Equity Risk = standard deviation of returns for 60 months up to year end date 1994.
Operating / Asset Risk = standard deviation of annual ROA over two time periods.
Financial Risk = Long term loans, short term loans and overdrafts divided by market value of equity at year end date 1994.
Operating Lease Adjustment = Present value of operating lease liability for year end 1994 divided by market value of equity at year end date 1994.

compared to 11 for the smaller sample (n=125). Therefore, one or more companies, with significant debt obligations compared to a negligible market value of equity, could unduly influence the analysis. It should be noted that there are companies in the sample with no financial risk and/or operating leases. However, a mean operating lease adjustment of 0.28 (i.e. on average, 28p of operating lease for every £1 of market value of equity) up to a maximum of 6.3 highlights an extensive use of operating leases by companies in the sample.

Table 15.2 presents the results of the association test to investigate whether investors use a debt-equity ratio adjusted for operating leases when assessing equity risk. The estimates obtained, from the OLS regression procedure in SAS (SAS Institute Inc., 1990), are for equation (5) in chapter 14.

At this stage, the measures of total debt and risk were used with each of the four alternative definitions for operating/asset risk (based on 10 and 7 years ROA, each calculated with both opening and average total assets), labelled models 1 to 4 in Table 15.2. In all sets of estimates, the proxies for financial risk and operating/asset risk explain a significant variation in equity risk. However, the coefficients on the operating lease adjustment measure differ according to the measure of operating/asset risk used. When the standard deviation of ROA over 7 years was used, the β_3 coefficient was significantly positive (at the 10% confidence level). However, when 10 years was considered, β_3 ranges from significantly negative to insignificantly positive according to whether opening or average total assets is used in the ROA calculation. These latter, unexpected results could be a product of a smaller sample size or there could be one or more observations exerting unusual influence on the regression estimates.

To investigate this further, diagnostic testing for influential observations was undertaken. Two of the four models were selected for detailed investigation- models 1 and 4. Model 1 was selected because the sign on the β_3 coefficient was against expectations and significantly negative. Model 4 was selected because, theoretically and empirically, it seems the best candidate for a base model for three reasons. First, ROA was calculated using average total assets. Although Ely (1995) calculated ROA using an opening total assets figure, it appears more logical to compare

Table 15.2: Regression estimates using four alternative measures of operating/asset risk

Model	Operating/Asset Risk Definition	N	β_0	β_1	β_2	β_3	Adj R^2	F Value
1	Standard Deviation of ROA over 10 years using opening TA.	125	0.085 (18.71)***	0.020 (4.38)***	0.020 (8.54)***	-0.133 (-5.35)***	0.489	40.51***
2	Standard Deviation of ROA over 10 years using averageTA.	125	0.077 (16.10)***	0.435 (5.35)***	0.194 (7.99)***	0.039 (0.72)	0.612	66.20***
3	Standard Deviation of ROA over 7 years using opening TA.	162	0.084 (15.64)***	0.363 (7.10)***	0.022 (4.52)***	0.109 (1.94)*	0.332	27.82***
4	Standard Deviation of ROA over 7years using average TA.	162	0.064 (13.86)***	0.861 (13.15)***	0.033 (5.84)***	0.102 (1.82)*	0.597	80.59***

T values are in parenthesis
*** Significant at 1% (2 tailed test)
** Significant at 5%
* Significant at 10%

earnings for a year with the average total assets in place over the year (Brealey and Myers, 1996). Second, the adjusted R^2 for the two models using opening total assets (models 1 and 3) were lower. Third, in model 4, the standard deviation of ROA was calculated over 7 years, which increased the sample size to 162 companies, compared to 125 in model 2.

Testing for Influential Observations

In order to measure the influence of each observation on the estimated coefficients, statistics proposed by Belsley *et al.* (1980, p.28) and obtained by selecting the relevant option in the regression procedure in SAS were used. The statistics include leverage values (h_I), covratios, dffits and dfbetas. Observations with h_I values over a certain amount are said to be possibly influential and worth investigating. The cut-off is sample-specific and expressed by the formula 2*p/n, where n is the number of observations and p is the number of parameters in the model (including the intercept, ie. the constant term). The covratio statistic measures the change in the determinant of the covariance matrix of the coefficient estimate by deleting the ith observation, and observations with |covratio-1|>=3*p/n should be investigated. The dffits statistic, being a scaled measure of the change in the predicted value for the ith observation, is also calculated by deleting the ith observation. An observed dffits value, which is greater than two times the square root of p divided by n, is worth investigating. Finally, observations with dfbetas (the scaled measure of the change in each parameter estimate, again calculated by deleting the ith observation), of greater than 2 divided by the square root of n are also worth investigation. It is not clear if an observation should be investigated if only one or more than one statistic exceeds the cut-offs. In this study, as a rule of thumb, an observation was investigated if it had two or more statistics exceeding their cut-offs.

Table 15.3 shows the respective cut-off points for each of these statistics in obtaining both sets of estimates. It also shows the observations and statistic values exceeding the cut-offs, determined after checking all the observations in each sample. Having obtained a list of possible influential observations, the OLS regression model was re-run, deleting each one at a time. The estimates are shown in Table 15.4.

Table 15.3: Influence diagnostics on regression estimates reported for model 1 and model 4

	Model 1	Model 4
No of obs.	125	162
No of param.	4	4
Cut Off Points:		
Hi	0.064	0.0494
Covratio-1	|0.096|	|0.0741|
Dffits	0.3578	0.3143
Dfbetas	0.1789	0.1571

						Dfbetas		
	id	Hi	Covratio	Dffits	β_0	β_1	β_2	β_3
MODEL 1								
Obs: 4	11	0.1924	1.2695			-0.2368		
27	64	0.7322	2.374	6.5103	-0.6628	0.4084	6.249	-4.8204
43	101	0.1881	0.839	1.7478		0.5982	-1.2059	1.5168
83	208	0.0879		-0.4951		-0.4719		
98	248	0.8834	7.8688	-5.2499		0.2547	-0.2196	-3.4348
117	288	0.188	0.8944	-1.6013	-0.2455	0.4349	-1.4609	0.5968
121	296	0.5044	1.4763	-3.3202	1.7268	-3.2928	0.5938	0.4072
MODEL 4								
Obs: 5	11	0.0629		-0.5318	0.2375	-0.5025		
24	44	0.9512	13.858	-18.3549	-0.9742	1.9574	-18.2885	0.6952
34	62		0.8343	0.6936	-0.2881	0.6441		
35	64	0.2172		1.9531	-1.0309	1.6629	0.8074	-0.4021
67	125	0.0504	0.7494	-0.8927	0.4015	-0.7814		-0.1602
75	144		0.7775	0.3829		0.2032		
80	152	0.1607	1.1875	0.4654	-0.2595	0.4556		
130	248	0.6803	3.1199	-1.5327				-1.5175

Table 15.4: Influence diagnostics: OLS regression deleting possible influential observations

	β_0	β_1	β_2	β_3	N	Adj R^2	F Value
MODEL 1							
Original estimates	0.085***	0.202***	0.204***	-0.133***	125	0.489	40.51***
id 11 deleted	0.085***	0.213***	0.203***	-0.134***	124	0.487	39.84***
id 64 deleted	0.088***	0.184***	0.063	-0.020	124	0.194	10.85***
id 101 deleted	0.086***	0.176***	0.232***	-0.169***	124	0.531	47.44***
id 208 deleted	0.085***	0.224***	0.202***	-0.135***	124	0.499	41.84***
id 248 deleted	0.085***	0.190***	0.209***	-0.049	124	0.491	40.59***
id 288 deleted	0.086***	0.183***	0.238***	-0.147***	124	0.531	47.38***
id 296 deleted	0.078***	0.348***	0.191***	-0.143***	124	0.529	47.03***
MODEL 4							
Original estimates	0.064***	0.861***	0.033***	0.102*	162	0.597	80.59***
id 11 deleted	0.063***	0.894***	0.032***	0.095*	161	0.607	83.30***
id 44 deleted	0.069***	0.739***	0.130***	0.065	161	0.618	87.13***
id 62 deleted	0.066***	0.820***	0.033***	0.108**	161	0.589	77.56***
id 64 deleted	0.069***	0.757***	0.028***	0.123**	161	0.508	56.08***
id 125 deleted	0.063***	0.911***	0.032***	0.110**	161	0.632	92.51***
id 144 deleted	0.064***	0.849***	0.033***	0.094*	161	0.607	83.42***
id 152 deleted	0.066***	0.832***	0.033***	0.107*	161	0.560	68.93***
id 248 deleted	0.064***	0.852***	0.033***	0.186*	161	0.595	79.43***

Considering model 1 first, the signs and significance of coefficient estimates were essentially the same when most of the influential observations were deleted. However, two observations (id 64 and 248) caused the negative coefficient for β_3 to become insignificant when they were individually removed. The removal of these two observations has less impact on regression estimates in model 4, but this could have been due to an increase in sample size. Only the removal of one observation (id 44, not present in model 1 sample) had any major effect on regression estimates in model 4, causing the β_3 coefficient to become insignificant. On further investigation, these three observations (id 44, 64 and 248) were found to have earnings before interest which varied considerably from positive to negative, and in 1994 and before, had considerably more total debt compared to their market values of equity. In consequence, the measures of both financial risk and operating/asset risk for these observations were unusually high compared with others in the sample.

Belsley et al.(1980) point out the danger of removing high-influence data points solely to achieve a desired change in regression output. They advocate caution in the removal of observations for reasons other than errors in the data. The data on these observations was checked back to Datastream and the possibility of any errors in data collection was eliminated. To establish whether these influential observations should be removed from the sample, company names were put to identification numbers, and their backgrounds were investigated. All three companies (Brent Walker, Castle Mill and Signet) suffered large losses for the accounting periods before and around 1994. As a result they all underwent complete restructuring by selling off their loss making activities or by changing the focus of their business activities. Brent Walker's listing on the London Stock Exchange was eventually cancelled in 1997 when its lenders proceeded with liquidation. Castle Mill subsequently changed its name to BWL, and its activities from wholesale clothing distribution to aircraft services through the purchase of an unquoted company. The Signet Group's UK business was totally reorganised through major sell offs before it returned to running profitably. On the basis of this information, and the unusually high proportions of debt in these companies capital structures at the time, it was decided that these companies are not typical compared to others in the sample and the population it represents. Therefore, all further analysis was based on a sample excluding these three unduly influential observations.

Table 15.5 reports regression estimates with all three influential observations removed. The coefficient on β_3 becomes insignificantly positive in model 1; compared to significantly negative when the influential observations were included (Table 15.2). However, in model 4 the signs and significance of regression estimates did not change. Adjusted R^2 had reduced from 0.5973 to 0.4994, indicating the importance of the influential observations in the original OLS model fit obtained. The diagnostic testing and removal of influential observations has eliminated the possibility of a negative relationship existing between equity risk and an adjustment to financial risk for operating lease liability. In adopting model 4 as the base model, for reasons suggested previously, the removal of the influential observations cannot be seen to be manipulative when estimates essentially remain the same. Thus, all subsequent analysis was based on a sample size of 159 companies with operating/asset risk defined as the standard deviation of ROA over 7 years prior to 1994, calculated using average total assets.

OLS Regression Estimates using the Base Model

The empirical results for model 4 in Table 15.5 provide evidence of a significantly positive relationship (at the 10% confidence level[4]) between equity risk and the adjustment to financial risk for operating lease liability. This implies that operating leases are currently recognised in the UK market's assessment of equity risk. If all the variation in the equity risk measure were attributable to the variation in operating/asset and financial risk measures, β_0 and β_1 would be zero and one respectively. In this case, the estimate for β_0 was relatively close to zero (0.07) but significantly positive. The β_1 estimate was also significantly positive at 0.69.

If operating leases are considered a substitute for non-leasing debt in the assessment of equity risk, β_2 might be expected to equal β_3. The estimates for β_1 (operating/asset risk) compared to β_2 and β_3 (financial risk) might be expected to differ according to the tax benefit associated with financial risk. If β_1 had been found to equal 1, β_2 might have been expected to approximate 0.67, assuming $\beta_2 = (1\text{-}t)\,\beta_1$, with t, the marginal tax rate, approximating the corporation tax rate of

[4] Throughout this study, significance levels are reported using a conservative two-tailed test unless otherwise stated.

Table 15.5: Regression estimates comparing two alternative measures of operating/asset risk for samples with three influential observations removed.

(see models 1 and 4 in Table 15.2 for comparison)

Model	Operating/Asset Risk Definition	N	β_0	β_1	β_2	β_3	Adj R^2	F Value	BPG	JB
1	Standard Deviation of ROA over 10 years using opening TA	123	0.088 (20.07)***	0.176 (4.00)***	0.073 (1.71)*	0.044 (0.81)	0.173	9.48***		
4	Standard Deviation of ROA over 7 years using averageTA	159	0.066 (14.45)***	0.693 (9.97)***	0.347 (3.43)***	0.175 (1.87)*	0.499	53.54***	79.2***	37.14***
	White's hetero-correceted estimates		(13.8)***	(5.92)***	(1.94)*	(2.04)**				
Model 4 without operating lease adjustment										
	Standard Deviation of ROA over 7 years using averageTA.	159	0.066 (14.42)***	0.717 (10.39)***	0.381 (3.80)***		0.491	77.33***		

Table15.6: Pearson correlations between variables

	Equity Risk	Operating Risk	(Debt/Equity) X Operating Risk
Operating Risk	0.672***		
(Debt/Equity) X Operating Risk	0.387***	0.268***	
(PVOL/Equity) X Operating Risk	0.294***	0.231***	0.232***
No of Observations	159		

*** significant at 1% level (2 tailed test)
** significant at 5% level
* significant at 10% level
T values are in parenthesis

33%. As β_1 was found to be 0.69, the implied tax rate is approximately 49%, compared to the 75% found by Ely (1995).

A comparison of the estimate for β_2 (0.35) and β_3 (0.17) indicates that operating lease obligations might be considered less risky. However, a statistical test was performed to investigate if the β_2 and β_3 coefficients were statistically different. The procedure for testing the equality of two regression coefficients proposed by Gujarati (1995, p.254) was followed. The t statistic (1.14), calculated using the regression estimates, variances and covariance obtained from Shazam, was found to be below the critical t value (1.65) at the 10% level of significance. Therefore, the hypothesis that the β_2 and β_3 coefficients are equal cannot be rejected. This supports previous research that found total lease obligations to be a substitute for non-leasing debt obligations in the UK (Beattie, Goodacre and Thomson, 2000). However, it does not confirm previous findings of imperfect substitution, with leasing obligations being considered less risky.

In obtaining the regression estimates, an adjusted R^2 value of approximately 0.5 was achieved. Therefore, approximately 50% of the variation in equity risk is explained by the variation in operating/asset risk, financial risk and an adjustment to financial risk for operating lease liability. Thus, the explanatory power compares favourably with that of Ely, who reported an adjusted R^2 of only 0.39, despite having a sample nearly double the size.

To assess the impact of including the operating lease adjustment, regression estimates were obtained with its removal from the model (see Table 15.5). The estimates for β_1 and β_2 were slightly higher when the operating lease adjustment (β_3) was excluded. Also the adjusted R^2 was slightly lower at 0.491. As β_1 and β_2 were statistically significant in both sets of estimates, the marginal or incremental contribution of β_3 and its statistical significance was investigated. This involved an F Test as described in Gujarati (1995, p.250). The F value calculated (3.46) exceeded the value from the F table (approximately 2.75) at the 10% confidence level. Therefore, the addition of the operating lease adjustment variable makes a significant marginal contribution to the explanatory power of the model.

Further diagnostic techniques were employed in order to determine the robustness of the estimates obtained for model 4 in Table 15.5. This involved measuring the presence and intensity of collinear relationships between independent variables in order to identify any coefficients adversely affected (Belsley et al., 1980). Also, any discrepancies between the observed values of the equity risk measure and those predicted by the regression model (known as residuals) were graphically and statistically analysed to identify any violation of certain critical regression assumptions (Kaplan and Atkinson, 1989).

Testing for Multicollinearity

The correlation matrix for variables, shown in Table 15.6 indicates that there is a significant relationship between all independent variables. This is hardly surprising when operating/asset risk is included throughout. Also, both debt and the present value of operating leases are scaled by the market value of equity. As the correlation coefficients between any two independent variables do not exceed 0.3, they do not appear to be related to any great extent. Bivariate correlations cannot show whether a more complex relationship exists between a combination of all 3 independent variables, while no two taken alone are highly correlated.

To investigate this possibility, a set of collinearity diagnostics (Belsley et al., 1980) was computed for the model 4 estimates in Table 15.5. A measure of tolerance was obtained for each coefficient of the independent variables. This tolerance value is represented by the notation $1\text{-}R^2$, where R^2 is obtained from the regression of the variable on all other regressors in the model. The reciprocal of the respective tolerance values, known as variance inflation factors (VIF), provide an overall indication of collinearity. A high VIF indicates an R^2 of near unity and hence points to collinearity; as a general rule of thumb, a VIF of less than 10 provides no cause for concern. However, using this method in isolation is not recommended, since a VIF has the inability to distinguish among several coexisting near dependencies and provides a measure that is numerically unstable when there is collinearity present in a model.

Therefore, the VIF's were considered in combination with a model condition number based on the eigenvalues of the independent variables. Collinearity between

the three independent variables is indicated by the presence of a small eigenvalue. It is, however, difficult to establish what is precisely meant by small. The highest and lowest eigenvalues obtained from the regression model can, however, be used to compute a condition number. The condition number is equal to the square root of the highest divided by the lowest eigenvalue, and as a rule of thumb, a value below 30 indicates no cause for concern in respect of the presence of collinearity. Table 15.7 shows the tolerance measure, variance inflation factors and eigenvalues for each independent variable and the condition number for the model. As the VIFs are less than 10 in all cases, and the condition number is well below 30, the absence of collinearity problems was thus concluded.

Violation of Regression Assumptions

The aim of the graphical and statistical analysis of residuals was to test the following assumptions. First, the equally weighted observation procedure in an OLS regression model is optimal only if the residual variance is constant for each observation. In other words, the OLS procedure requires that the residual variance be independent of the size of any of the independent variables and the size of the predicted value of the dependent variable. If this is not the case, the data is described as heteroscedastic and the OLS estimates are not the best that could be produced (Kaplan and Atkinson, 1989). Figures 15.1 to 15.5 show the residuals plotted against observation number, against the predicted equity risk values and against the independent variables. A lack of pattern was not clearly visible, and therefore, a further statistical test for heteroscedasticity was performed. The Breush-Pagan-Godfrey (BPG) statistic (described in Gujarati, 1995, p.377), used to detect heteroscedasticity in large samples, was obtained from Shazam. A BPG of 79.20, significant at the 1% confidence level, confirmed that the data was heteroscedastic. Although the unbiasedness and consistency properties of the OLS estimates are not destroyed, they are no longer efficient. In order to confirm the statistical inferences made about them, Model 4 was re-run using White's heteroscedasticity-corrected variances and standard errors (Gujarati, 1995, p.382). As shown in Table 15.5, the β_2 coefficient was significant at the 10% confidence level compared to the 1% originally reported, while the β_3 coefficient was significant at the 5% confidence level compared to the 10% originally reported. All further regression estimates reported were obtained using White's heteroscedastic adjustment in Shazam.

Table 15.7: Collinearity Diagnostics

Variables		Estimates	Tolerance	VIF	Eigenvalues
Constant	β_0	0.066***	.	0.000	2.500
Operating Risk	β_1	0.693***	0.898	1.113	0.719
(Debt/Equity) X Operating Risk	β_2	0.347***	0.898	1.114	0.544
(PVOL/Equity) X Operating Risk	β_3	0.175*	0.915	1.093	0.237
Condition Number					3.25
Adjusted R2	0.499				
No of observations	159				

*** significant at 1% level (2 tailed test)
** significant at 5% level
* significant at 10% level

Figure 15.1: Residuals plotted against observation number

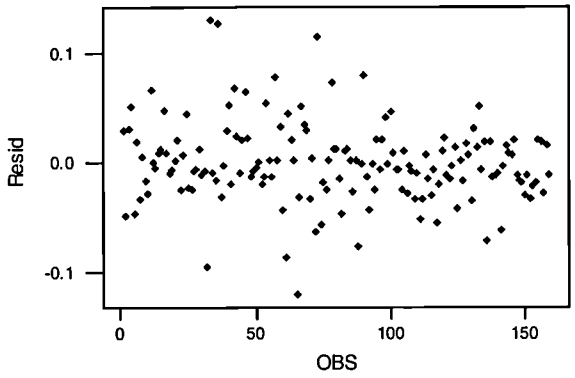


Figure 15.2: Residuals plotted against predicted equity risk values

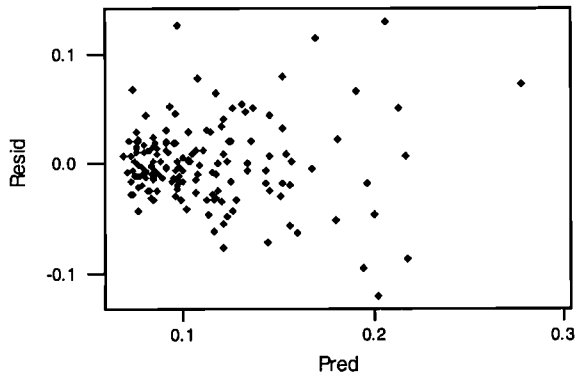


Figure 15.3: Residuals plotted against operating/asset risk variable

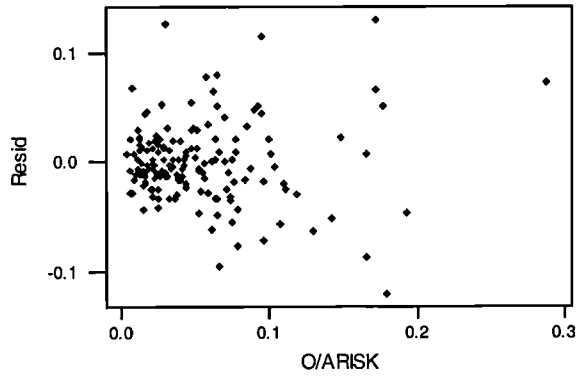


Figure 15.4: Residuals plotted against financial risk variable

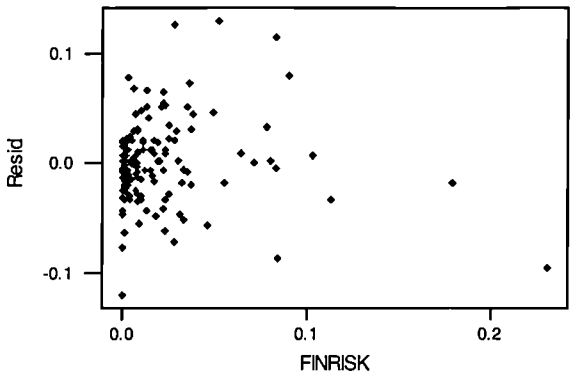


Figure 15.5: Residuals plotted against operating lease adjustment variable

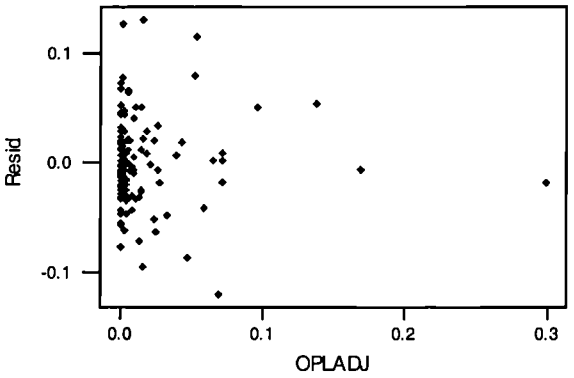
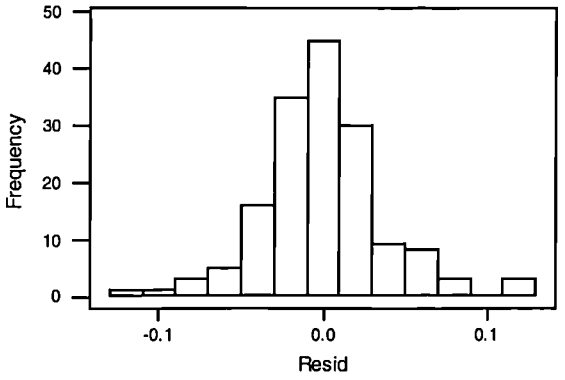


Figure 15.6: Histogram of residuals



Second, the t tests and statistical significance at confidence intervals are strictly only valid if the residuals can be approximated by a normal distribution. A visual test of normality was obtained by plotting the residuals from the regression model into a histogram. This is shown in figure 15.6. For the majority of the sample, the shape appears to be approximately normal. However, the Jarque-Bera (JB) test for normality was performed. The JB statistic of 37.14, significant at the 1% confidence level indicated that the assumption that the residuals are normally distributed was violated. However, non-normality is unlikely to cause serious problems in the interpretation of regression estimates. At worst, a relationship found to be significant, say at 5%, when the true significance level was 8%, would not unduly influence any conclusions reached.

15.3: Equity risk and an operating lease adjustment based on the factor method

The following regression model was estimated to determine whether the UK market's assessment of equity risk is better explained using a simple factor method rather than the more complex constructive capitalisation procedure:

$$\sigma_s = \beta_0 + \beta_1 \sigma_{ROA} + \beta_2 \frac{D\ rep}{E} * \sigma_{ROA} + \beta_3 \frac{OPLRENTAL}{E} * \sigma_{ROA} \qquad (8)$$

where OPLRENTAL is the operating lease rental expensed in the profit and loss account for 1994 (Model 5a), and the operating lease rental disclosed in the footnotes to the 1994 company accounts (Model 5b). Analysts evaluating operating leases by the factor method would multiply the operating lease rental by a factor to obtain an estimate of operating lease liability [6 or 8 are common in the US (Ely, 1995), while 8 is common in the UK (Dresdner Kleinwort Benson, 1998, p.4)]. However, in the above model, the relationship between equity risk and the operating lease rental would not change if the operating lease rental were multiplied by a factor.

Table 15.8 compares the regression estimates using the present value of operating leases (originally reported in model 4 of Table 15.5) with those using rental expense and obligations (Model 5a and Model 5b). There is little difference in the size, sign and significance of the coefficient estimates, β_0, β_1 and β_2 by using an adjustment to financial risk based on operating lease rental. However the β_3 estimate is larger and

Table 15.8: A comparison of regression estimates using alternative operating lease evaluation methods

		Constructive Capitalisation	Factor Method	Factor Method
Model		4 (Table 15.5)	5a	5b
Variables		Estimates	Estimates	Estimates
Constant	β_0	0.066 (13.80)***	0.067 (13.88)***	0.066 (13.71)***
Operating Risk	β_1	0.693 (5.92)***	0.701 (5.80)***	0.697 (5.97)***
(Debt/Equity) X Operating Risk	β_2	0.347 (1.94)*	0.348 (1.87)*	0.344 (1.87)*
(PVOL/Equity) X Operating Risk	β_3	0.175 (2.04)**		
(OPLRENTAL/Equity) X Operating Risk	β_3		0.805 (0.65)	0.736 (0.95)
No of observations Adjusted RSQ F Value		159 0.499 53.54***	159 0.491	159 0.4926 52.13***

*** significant at 1% level (2 tailed test)
** significant at 5% level
* significant at 10% level
T values are in paranthesis
Model 5a is based on operating lease expense in 1994 p & l account.
Model 5b is based on obligations in footnotes to 1994 company accounts.

no longer significant in both Model 5a and Model 5b. It can, therefore, be concluded that UK investors/analysts appear not to recognise operating leases by employing the factor method (based on either the operating lease expense in the profit and loss or the operating lease obligation disclosed in the footnotes), in their assessment of equity risk. These results conflict Ely's analysis of the US situation which found no difference between an adjustment based on constructive capitalisation and rental expense. In contrast, ILW found constructive capitalisation of operating leases to explain less of the intra-industry variation in risk than the ad hoc factor method.

15.4: Alternative measures of financial risk

The base model includes a measure of *total* debt in calculating the leverage ratio (financial risk measure). In response to Ely's (1995) suggestion that all liabilities may not have the same relationship with equity risk, *long term* and *net* debt reported figures were also used to calculate measures of financial risk (see Table 14.1 for the precise Datastream definitions).

Table 15.9 reports the regression estimates for equation (5) comparing these two alternative definitions of debt (Model 6 and Model 7) with that of the base model (Model 4). The estimates obtained using total debt and net debt (model 7) in the definition of financial risk were essentially the same. However, when long term debt was considered (model 6), the size of the β_2 coefficient increased dramatically and β_3 coefficient became insignificant. This suggests that short term debt obligations do not have as much impact on equity risk as long term debt obligations, which is hardly surprising. However, it also suggests that the relationships between equity risk and short term debt, and equity risk and operating lease liability, could be similar. This is because the operating lease adjustment to financial risk was only significant when other short term obligations were included in equity risk. This result is surprising, considering that it is *long term* operating leases that predominate in the UK. If operating lease liabilities are currently recognised as equivalent to short term debt in the UK market's assessment of equity risk, then new accounting regulation, requiring capitalisation (indicating precise terms and conditions of operating lease agreements) could have a significant impact. An increased

Table 15.9: Regression estimates for alternative measures of financial risk

Model		4	6	7	8
Variables		Total Debt	Long Term Debt	Net Debt	Total Assets
Constant	β_0	0.066 (13.80)***	0.063 (14.7)***	0.065 (14.35)***	0.075 (18.31)***
Operating Risk	β_1	0.693 (5.92)***	0.658 (6.80)***	0.756 (7.51)***	0.355 (3.419)***
(Debt/Equity) X Operating Risk	β_2	0.347 (1.94)*	1.609 (5.57)***	0.359 (2.38)**	
(Debt/Total Assets) X Operating Risk	β_2				1.496 (3.80)***
(PVOL/Equity) X Operating Risk	β_3	0.175 (2.04)**	0.094 (1.06)	0.184 (2.12)**	
(PVOL/Total Assets) X Operating Risk	β_3				0.36 (3.504)***
No of observations		159	159	159	159
Adjusted R^2		0.499	0.600	0.519	0.571
F Value		53.54***	78.83***	57.86***	71.11***

*** significant at 1% level (2 tailed test)
** significant at 5% level
* significant at 10% level
T values are in paranthesis

awareness of long term operating lease obligations and their financial risk, in comparison to short term debt, could be reflected in the revaluation of securities.

Finance theory is generally related to market values. However, in an investigation of operating lease recognition in market assessments of equity risk, ILW (1993) argue that book values can be relied on to estimate financial risk. However, they advocate the use of the leverage ratio, book value of debt to book value of total assets, because of the econometric problems associated with using the book value of equity. The model was re-estimated using total assets as the denominator in the measure of financial risk (total debt) and the adjustment for operating lease liabilities.

The estimates are reported in Table 15.9 (model 8). The signs and significance of estimates, compared to those when debt and PVOL were scaled by the market value of equity, are the same, except for an increase in the significance of β_3. There is also a dramatic increase in the size of the β_2 coefficient. The adjusted R^2 also increased from 0.49 to 0.57. These results suggest that investors/analysts could evaluate financial risk using leverage ratios based on total assets rather than the market value of equity. Results also confirm that a positive relationship exists between equity risk and an adjustment to financial risk for operating lease liability. They provide additional evidence that UK investors/analysts appear to recognise operating leases in their assessments of equity risk.

15.5: Additional/alternative control for operating/asset risk differences across firms

Industry Analysis

The relationship between equity risk, financial risk and an operating lease adjustment has previously been examined for companies operating within the same industry as a control for operating/asset risk differences (ILW, 1993). This approach was attempted in the present study but samples were too small for narrowly defined industries. OLS regression estimates were obtained for three sub-samples of companies in the Consumer Goods, General Industrials and Service Industries. However, they proved uninformative since these broad industry classifications provided inadequate control for operating/asset risk differences across companies.

Analysis by Company Size

Additional analysis was performed by splitting the 159 companies in the original sample according to size, as measured by the average amount of total assets in place for 1994. There are two reasons behind this decision. First, company size has proved informative in previous research (Marsh, 1982). Beattie et al.(2000) found small companies, in general, not to use leasing and large companies to exhibit low levels of usage. Medium sized companies were found to be the heaviest users, which seems logical considering they have less access to large amounts of cheaper alternatives, required to finance growth. Of course, findings may be sensitive to the size classifications used. Second, companies of similar size in terms of total assets could exhibit similar operating/asset risk.

The relationship between equity risk, operating/asset risk, financial risk and an operating lease adjustment was, therefore, investigated for sub-samples of companies classed as small, medium sized and large. The sub-samples were determined by obtaining the distribution of the size variable (average total assets over 1994). All companies in the lower quartile were classed as small, in the upper quartile as large, and in the middle two quartiles as medium sized. Equation (5) was estimated for each of the three sub-samples. Table 15.10 reports the three sets of regression estimates. The estimates for the sub-sample of medium-sized companies reflect the estimates obtained for the whole sample. This is not too surprising since they comprise over half of the whole sample. The regression estimates for medium-sized companies, who use the most operating leases, have the highest explanatory power. This would be expected if medium-sized companies use the most operating leases. However, for both small and large companies, the relationship between equity risk and financial risk is no longer significant. For smaller companies, this is also the case for the relationship between equity risk and the operating lease adjustment. For large companies, the relationship is surprisingly significantly negative. However, the majority of small and large companies have a lower usage of operating leases compared to medium sized companies.. The fact that the relationship between equity risk and financial risk is not significant for small companies could support previous findings (Marsh, 1982) that they are more likely to issue equity than debt finance, and subsequently exhibit low levels of financial risk. However, it is important to note that the estimates obtained for both small and

Table 15.10: Regression estimates for sub-samples of different company size

Coefficient	Small	Medium Sized	Large
β_0	0.059 (4.56)***	0.066 (11.18)***	0.068 (8.10)***
β_1	0.791 (4.30)***	0.689 (4.85)***	0.743 (2.39)**
β_2	0.126 (0.69)	0.619 (2.97)***	0.324 (1.17)
β_3	0.059 (0.57)	0.329 (2.15)**	-0.512 (-3.32)***
Number of observations	39	81	39
Adj R^2	0.435	0.555	0.241
F Value	10.75***	32.61***	5.02***

*** significant at 1% level (2 tailed test)
** significant at 5% level
* significant at 10% level
T values are in paranthesis

Table 15.11: Descriptive statistics for D/E and PVOL/E by company size

D/E Ratio

	Small	Medium Sized	Large
Mean	0.340	0.443	0.458
Standard Deviation	0.572	1.263	0.692
Minimum	0.000	0.000	0.005
Maximum	3.484	11.268	3.558
No of Obs	39	81	39

PVOL/E Ratio

	Small	Medium Sized	Large
Mean	0.193	0.311	0.159
Standard Deviation	0.500	0.715	0.387
Minimum	0.000	0.000	0.000
Maximum	3.104	4.477	2.285
No of Obs	39	81	39
No of Cos with OL	28	73	32

large companies could be, at least partially, the product of a smaller sample size.

To explore these issues further, descriptive statistics were obtained for the leverage ratio and operating lease adjustment for each of the size groups (Table 15.11). The average operating lease adjustment was lower for both small and large companies, compared to medium sized. This, along with the explanatory power of regression estimates for medium-sized companies, could indicate that UK investors/analysts only recognise operating leases in their assessment of equity risk, when obligations are substantial, i.e. when they exceed some materiality threshold.

15.6: Analysis by operating lease intensity

As a further test, equation (5) was estimated for sub-samples of companies whose operating lease adjustment to financial risk was substantial. The sub-samples were obtained by comparing the unadjusted total debt-to-market value of equity ratio with the adjusted total debt plus present value of operating lease-to-market value of equity ratio. Regression estimates were obtained for samples of companies whose adjusted ratio was 100% (all companies using operating leases), 105%, 130% and 170% of their unadjusted ratio. The results are reported in Table 15.12.

If UK investors/analysts only recognise operating leases when obligations are substantial, an increase in the level of significance of the positive relationship between equity risk and operating lease adjustment (β_3 coefficient) might be expected as the significance of operating leased assets to the company increases. Also, the explanatory power of the model, measured by adjusted R^2, might be expected to increase as only companies with substantial obligations are considered. When the estimates for the full sample are compared with those for the samples of companies whose adjusted debt ratio exceeds 100% and 105% of their unadjusted ratio, the significance of the β_3 coefficient remained at the 5% level. However, the β_3 coefficient had increased in size. This was also the case for the sub-sample of companies whose adjusted debt to equity ratios exceeded 170% of their unadjusted ratios. However, for the sub-sample of companies whose adjusted ratios were over 130% of their unadjusted ratios, the β_3 coefficient was insignificant and smaller, even compared to that of the entire sample.

Table 15.12: Regression estimates comparing full sample with sub-samples of companies with substantial operating leases.

ADJ D/E	>100%	>105%	>130%	>170%	FULL SAMPLE
β_0	0.068 (11.59)***	0.065 (11.57)***	0.062 (10.07)***	0.063 (9.55)***	0.066 (13.80)***
β_1	0.659 (4.31)***	0.763 (5.47)***	0.764 (5.08)***	0.614 (3.87)***	0.693 (5.92)***
β_2	0.311 (1.55)	0.247 (1.13)	0.532 (2.20)**	0.598 (2.95)***	0.347 (1.94)*
β_3	0.194 (2.12)**	0.215 (2.16)**	0.142 (1.55)	0.203 (2.21)**	0.175 (2.04)**
Number of observations	133	122	87	46	159
Adj R^2	0.436	0.484	0.574	0.633	0.499
F Value	34.97***	38.83***	39.59***	26.87***	53.54***

*** significant at 1% level (2 tailed test)
** significant at 5% level
* significant at 10% level
T values are in paranthesis

A closer inspection was made of the individual observations in the sample of companies whose adjusted ratio exceeded 130% of their unadjusted ratios. The statistics that measure the influence of each observation on the estimated coefficients were obtained. Four observations were identified as possibly influential. The removal of three of the observations had no effect. However, the removal of the fourth observation caused the β_3 coefficient to become significant at the 10% level. On further examination, this observation was found to exhibit the highest measure of equity risk, one of the highest measure of operating/asset risk but below average financial risk and operating lease adjustment . Therefore, it was not typical compared to the rest of the sample, and was the reason for the difference in the β_3 coefficient compared to the other sub-samples.

The adjusted R^2 increased from 0.49 (full sample) to 0.63 (sub-sample of companies whose adjusted ratio exceeds 170% of their unadjusted ratio) despite a decline in sample size. Therefore, overall, results appear to provide some evidence in support of suggestions that UK investors/analysts might recognise only substantial operating lease obligations in their assessment of equity risk.

15.7: ROA ratio and operating lease liability

Table 15.13 reports descriptive statistics for ρ, the multiplicative difference between a company's reported ROA ratio and its ROA ratio adjusted for operating lease capitalisation. The total sample is split into companies with no operating leases ($\rho=1$), companies whose reported ROA was greater than their ROA adjusted ($\rho>1$) and companies whose reported ROA was less than their adjusted ROA ($\rho<1$). There were 45 companies with $\rho>1$ and 94 companies with $\rho<1$. A maximum ρ of 10.7 indicates that operating lease capitalisation has considerably reduced the ROA ratio for one company.

Table 15.14 reports the regression estimates for equation (7). If UK investors/analysts adjust the ROA ratio for operating leases in their assessment of equity risk, a significant difference would be expected across firms in the coefficients of β_1, β_2 and β_3. Statistical tests were performed to investigate if β_{1L} and β_{1H}, β_{2L} and β_{2H}, and β_{3L} and β_{3H} were statistically different (Gujarati, 1995, p.254).

Table 15.13: Descriptive statistics for ρ

	Total	H (ρ > 1)	L (ρ < 1)	ρ = 1
Maximum	10.697	10.697	0.999	
Q3	1.004	1.07	0.996	
Median	0.998	1.024	0.981	
Q1	0.972	1.008	0.938	
Minimum	0.646	1.001	0.646	
Mean	1.1	1.474	0.938	
n	159	45	88	26

Table 15.14: Regression estimates to investigate if ROA is adjusted for operating leases

Coefficients	Regression Estimates
β_0	0.065
	(13.25)***
β_1	0.725
	(4.53)***
β_{1L}	-0.067
	(-0.32)
β_{1H}	0.008
	(0.03)
β_2	0.394
	(1.48)
β_{2L}	0.32
	(0.84)
β_{2H}	-0.406
	(-1.42)
β_{3L}	0.149
	(1.76)*
β_{3H}	0.07
	(0.26)
n	159
ADJ R2	0.53
F VALUE	23.28***

*** significant at 1% level (2 tailed test)
** significant at 5% level
* significant at 10% level
T values are in paranthesis

The t statistics calculated for β_1 (0.301), β_2 (0.298) and β_3 (0.271) were found to be well below the critical t value (1.65) at the 10% confidence level. Therefore, the expectation that the coefficients would be significantly different for L and H companies was not realised.

The adjusted R^2 of the model including the dummy L and H variables increased to 0.53 compared to 0.49 in the original model. An F statistic (3.026) was calculated determine if the increase in explanatory power due to the dummy variables was statistically significant. It was found to exceed the critical F value (approximately 2.27) at the 5% confidence level. Therefore, including the interactive dummy variables significantly improves the regression estimates.

Overall, results provide mixed evidence as to whether UK investors/analysts adjust ROA for operating leases when assessing equity risk. Ely's (1995) analysis of the US situation also provided inconclusive evidence. However, her division of the sample according to the value of ρ differs from that used in the present study.

15.8: A comparison with US studies of operating lease recognition in investors/ analysts assessments of equity risk

In the present study, equity risk (total risk) was found to have a significantly positive relationship with operating/asset risk, financial risk and an adjustment to financial risk for operating lease liabilities (estimated using a constructive capitalisation process). Ely (1995) obtained similar results for the US market. ILW (1993) also found equity risk to have a significant relationship with an operating lease adjustment to financial risk. A comparison of the regression estimates, obtained in the present study and in that of Ely (1995) can be found in Table 15.15. A direct comparison between ILW's results and the present study is not possible as they considered companies in the same industry and omitted a measure of operating/asset risk from their model. In the present study, the β_2 (financial risk) estimate was larger than the β_3 (operating lease adjustment) estimate, indicating that operating lease obligations might be considered less risky than non-leasing debt alternatives. However, further statistical tests failed to confirm that β_2 and β_3 were statistically different. Ely reported a small β_2 estimate compared to β_3 for her US

Table 15.5: Comparison of regression estimates with those of Ely (1995)

Variables	Coefficients	Present Study	Ely (1995)
Constant	β0	0.07***	0.08***
Operating Risk	β1	0.69***	0.33***
(Debt/Equity) X Operating Risk	β2	0.35**	0.08***
(PVOL/Equity) X Operating Risk	β3	0.17**	0.35***
	ADJ RSQ	0.50	0.39
	n	159	314

*** Significant at 1% level (one-tailed test)
** Significant at 5% level
* Significant at 10% level

sample. This could indicate that the composition of debt across US companies may include a substantial amount of liabilities considered less risky than operating lease obligations. However, an absence of diagnostic testing to confirm the reliability of her regression estimates and a failure to test for equality between β_2 and β_3 provides inconclusive evidence.

Ely reported a higher level of significance (1% level) for the positive relationship between equity risk and operating lease adjustment. However, she used a one-tailed test compared to the more conservative two-tailed test reported throughout the present study. If Ely had reported a two-tailed test, the level of significance of her β_3 estimate might have been comparable to the 5% reported in the present study. The significance of the β_3 estimate in Ely's study could indicate that her constructive capitalisation process mirrors more closely the evaluation process adopted by US investors/analysts than is the case in the UK. This would be consistent with a less sophisticated shareholder base in the UK.

The explanatory power of the present study's model compares very favourably with that of Ely, despite having a sample of nearly half the size. In the present study, approximately 50% of the variation in equity risk is explained by the variation in operating/asset risk, financial risk and operating lease adjustment, compared to 39% in Ely's study.

The relationship between equity risk and operating lease adjustment was not significant in the present study when the factor (rental-based) method was used to estimate operating lease liability. In contrast, Ely found an operating lease adjustment based on rental expense to have similar explanatory power to that based on constructive capitalisation, while ILW (1993) found an operating lease adjustment based on rental expense to have greater explanatory power than a constructive capitalisation method. However, the latter considered only companies within two industries and their analysis did not include a measure of operating/asset risk.

In summary, UK investors/analysts, like their US counterparts do appear to recognise operating lease liabilities in their assessments of equity risk. In the UK, a

process of constructive capitalisation to estimate operating lease liability appears to reflect actual behaviour more accurately than the rental-based factor method.

Chapter 16: Summary and conclusions – Market risk study

The aim of this study was to investigate whether UK investors/analysts recognise operating leases in their assessments of equity risk, i.e. to determine, from a market perspective, whether operating leases currently carry an 'off-balance sheet' advantage. Two alternative operating lease valuation methods were considered- a constructive capitalisation method and a factor method.

Previous research in the US (ILW, 1993 and Ely, 1995) suggests that operating leases, disclosed in footnote format, are recognised in assessments of equity risk. However, there is conflicting evidence as to the method of evaluation used. The UK represents an interesting setting within which to investigate these issues further. First, evidence suggests that UK investors/analysts may be less sophisticated than their US counterparts (Arnold et al., 1984) Second, operating leases are now a major source of UK company financing (Beattie et al, 1998). Third, a change in lease accounting regulation is imminent. If operating leases are not currently recognised, then the security prices of companies engaged in substantial operating lease activity could be seriously over valued.

OLS regression analysis was used to examine the relationship between equity risk, operating/asset risk, financial risk and an adjustment to financial risk for operating lease liability. Estimates of total operating lease liability were obtained from the process of constructive capitalisation undertaken by Beattie et al.(1998), and by the factor (rental based) method.

Empirical results provide evidence of a positive relationship between equity risk and the adjustment for operating lease liability. However, this relationship was only statistically significant when operating leases were evaluated by constructive capitalisation. Diagnostic procedures were employed to establish the robustness of results to the assumptions involved in OLS regression estimation. As a result, all regression estimates obtained were adjusted for heteroscedasticity. When the operating lease adjustment was based on rental expense or next year's obligations (factor method), the positive relationship was insignificant. Therefore, UK investors/analysts appear not to recognise operating leases by employing the factor method in their assessment of equity risk. These results conflict with both Ely's and

ILW's analysis of the US situation. Ely found no difference between an adjustment based on constructive capitalisation and rental expense, whereas ILW found constructive capitalisation to explain less of the intra-industry variation in risk rather than the ad-hoc factor method.

The OLS regression coefficient estimates obtained for financial risk and the operating lease adjustment were not found to be statistically different. This indicates that operating lease obligations are a substitute for other debt obligations. This was found to be the case in previous research (Beattie et al., 2000). However, the evidence from the present study does not confirm previous findings of imperfect substitution, with lease obligations being considered less risky.

Alternative measures of financial risk were considered. When long term debt was used in isolation, the size of the financial risk coefficient estimate increased dramatically, whilst the operating lease adjustment coefficient estimate became insignificant. This highlights the impact of long term debt obligations on equity risk compared to those short term. However, it also suggests that the relationships between equity risk and short-term debt, and equity risk and operating lease liability, could be similar. This is surprising, considering that it is long term operating leases that predominate in the UK. Financial risk was estimated using the book value of assets instead of the market value of equity in the denominator. The significance of the operating lease adjustment coefficient increased to the 1% confidence level. Also, there was a dramatic increase in the size of the financial risk coefficient, and an increase in the explanatory power of the regression model. Therefore, results provide some evidence to suggest that UK investors/analysts might evaluate financial risk using leverage ratios based on total assets rather than the market value of equity. This could have important implications for future empirical research requiring estimations of financial risk.

The relationship between equity risk, operating/asset risk, financial risk and operating lease adjustment was examined according to company size and operating lease propensity. The positive relationship found between equity risk and the operating lease adjustment was only significant for the sub-sample of medium-sized companies. The average operating lease adjustment was found to be lower for both

small and large companies. In addition, the size of the operating lease adjustment coefficient and the explanatory power of the regression model, were found to increase for samples of companies with increased operating lease propensity. Therefore, results appear to provide some evidence that UK investors/analysts might recognise only substantial operating lease obligations in their assessment of equity risk.

Finally, dummy variables, based on the difference between the ROA ratio reported and the ROA ratio adjusted by constructive capitalisation of operating leases, were introduced into the regression model. Their inclusion significantly improved the model's explanatory power. However, the coefficient estimates for two sub-samples of companies, who's reported ROA exceeded their adjusted ROA and vice versa, were not found to be statistically different. Therefore, it is difficult to conclude whether UK investors/analysts might adjust operating/asset risk according to operating lease capitalisation or not.

In summary, findings suggest that UK investors/analysts currently recognise operating leases in their assessment of equity risk, by a method of capitalisation. They do not appear to employ the factor method purportedly used by investment analysts. Therefore, from a market perspective, an 'off-balance' sheet advantage to operating leases is not conclusive. Thus, anticipated new regulation requiring operating lease capitalisation might have less impact than expected. However, although this study implies operating lease assessments are made, how accurate they are remains unclear. The constructive capitalisation process followed in this study involved subjective judgements and assumptions concerning total and remaining lives and interest rates implicit in operating lease agreements. The fact that the positive relationship found between equity risk and operating lease adjustment was not significant at high levels of confidence, could highlight different judgements and assumptions are made by investors/analysts. Only a revaluation of securities in the wake of new capitalisation regulation could indicate the true extent of operating lease 'off-balance sheet' advantage.

Chapter 17: Overall summary and conclusions

17.1: Summary and conclusions

The principal aim of the present study was to investigate the current role of leasing in the wider context of corporate financing decisions.

Leasing is a significant source of finance for UK companies, although present day determinants have received limited investigation. The focus of prior research has been the use of finance leases in isolation from the overall corporate financing decision. This seems inappropriate given the predominant and prolific use of operating leases (Beattie et al., 1998), and evidence to suggest that lease and debt finance appear to be at least partial substitutes (Beattie et al., 2000).

Historically, the use of leasing has been partly attributed to off-balance sheet accounting treatment. The current lease accounting treatment permits operating lease obligations to remain off-balance sheet. Therefore, an additional aim of the present study was to establish whether the off-balance sheet accounting treatment of operating leases significantly influences current use. This is necessary in relation to the future role of leasing, given the introduction of proposals essentially requiring balance sheet recognition of all material lease agreements. The potential consequences of such proposals becoming mandatory was also investigated in the present study.

To address these aims, the present study employed two alternative research methods in three separate investigations. A questionnaire survey was mailed to investigate the corporate financing and leasing decisions of 831 UK quoted industrial companies. A favourable response of 23% was achieved in terms of 198 completed questionnaires available for analysis. A second questionnaire survey was mailed to a different sample of 415 UK quoted industrial companies to investigate views and opinions on lease accounting reform. A response rate of 19% was achieved in terms of 91 completed questionnaires available for analysis. The samples of respondents to both questionnaires were found to be fairly representative of the population of UK quoted industrial companies in terms of size and industry profile. Responses also appeared to be unaffected by non-response bias.

In addition to the survey investigations, OLS regression analysis was employed to determine if operating lease disclosures are currently recognised in the UK market's assessment of equity risk. The accounting/company data for a sample of 159 UK quoted industrial companies was used to examine the relationship between equity risk, operating/asset risk, financial risk, and an adjustment to financial risk for operating lease liability. An estimate of operating lease liability was obtained through a process of constructive capitalisation (Beattie et al., 1998), and by using a factor (rental-based) method. Diagnostic procedures were employed to establish the robustness of results to the assumptions involved in OLS regression estimation.

Findings confirmed the significance of leasing as a source of finance. Approximately 84% of respondents to the financing decisions questionnaire indicated that their companies used, had previously used, or consider using leasing. Operating leases appeared to dominate the financing of all asset types, with the exception of the finance leasing of plant and machinery. The majority of respondents appeared to recognise fixed finance and operating lease obligations when measuring financial gearing. Also, only 6% of respondents indicated that they perceived leasing to have no bearing on company borrowing. These findings further substantiate the view that lease and debt finance are considered substitutes. An investigation of present day determinants of leasing, in the wider context of corporate financing decisions, is therefore justified.

The level of leasing is dependent on the overall level of debt finance. The present study investigated whether debt levels are optimised by balancing costs and benefits (static trade-off theory), or whether they are the product of investment and dividend needs by following a hierarchy of sources (pecking order theory). The relative importance of factors in the decision to issue debt were considered, in addition to how firm characteristics and circumstances relate to these factors (stakeholder theory, corporate strategy and corporate control). Factors influencing the decision to lease, including features mitigating the costs and enhancing the benefits in relation to non-leasing debt, and more practical issues were considered.

Findings suggest that investment opportunities and dividend payout appear more likely to influence debt levels, rather than an optimum level of debt finance being selected. However, when additional finance is required, the benefits and costs of all sources of finance appear likely to be considered. Approximately 60% of respondents indicated that certain sources of finance are considered preferable, and are therefore exhausted prior to others. On average, internal reserves followed by straight debt appear preferable to leasing. However, the majority of respondents appeared to make comparisons between leasing and bank borrowing, and approximately a third of respondents between leasing and internal reserves. Therefore, preferences do not appear to be automatically selected to the exclusion of other sources of finance.

At the outset, the process of determining debt levels, including lease levels, appear to reflect the pecking order theory of capital structure. However, the pecking order predictions of following a strict hierarchy of sources appears unfounded, when equity does not appear to be only used as a last resort. Further, approximately half of survey respondents indicated that they operated with some degree of target capital structure (strict/flexible). The findings of the present study confirm that neither the static trade-off nor the pecking order theory exists in its purest form. Findings appear more consistent with Myers' (1984) suggestion of a modified pecking order in which investment and dividend payout dictate the need for external finance, and debt including leasing is internally rather than externally constrained. In constraining the level of debt, firms must be aware of a maximum level of debt at which the perceived cost of issuing more debt outweighs the benefits. Firms might adopt a target capital structure if investment and dividend needs cause them to come close to exceeding this maximum. In the present study, company senior management appear to be the most important influence in setting target capital structures, inferring that debt is indeed internally constrained.

While the importance attached to the costs and benefits of all sources of finance appear to relate to individual circumstance, certain factors appear to dominate. It is evident that firms would expand their use of debt in the absence of restrictive covenants; and leasing has previously been suggested to contain less restrictive covenants (Smith and Wakeman, 1985; Day, 2000). In the present study, the

evidence in relation to lease covenants being less restrictive, and leasing having minimal impact on measures used in current debt covenants, was neutral. Therefore, an advantage to leasing in relation to restrictive covenants was not totally dismissed. Lease obligations might, at least partially, be excluded from restrictive covenants. Further, the vast majority of respondents to the lease accounting reform questionnaire inferred an off-balance sheet advantage to leasing in terms of borrowing covenants. A need for re-negotiation of covenants, in response to an increase in reported gearing from operating lease capitalisation, was acknowledged. Leasing appears to have the potential to compare favourably in terms of restrictive covenants, at least under the current accounting treatment. However, the existence and nature of restrictive covenants and the impact of lease obligations is an area requiring further investigation.

Debt appears more likely to be issued if equity is undervalued by the market, and less likely if share prices are high. The current accounting treatment of operating leases has the potential to influence the market value of equity. If operating leases are not currently recognised from footnote disclosures, then the share price of companies engaged in substantial operating lease activity could be seriously over valued. In this situation, the issue of equity would be preferable. Findings from the present study appear to suggest that operating leases are not ignored in the UK market's assessment of equity risk. However, the accuracy of operating lease assessments from footnote disclosures remains unclear. UK investors/analysts could potentially over or under estimate operating lease liabilities. Preparers' perception of market inefficiency is substantiated by responses to the financing decisions questionnaire. Only 1% of respondents estimated that their companies' ordinary shares are fairly priced by the market 100% of the time. It appears that not only does the overall level of debt influence the level of leasing, but the current accounting treatment of operating leases may potentially influence the overall level of debt, through the market value of equity.

Ensuring long-term survivability, and the degree and volatility of projected cash flow/earnings were ranked most important when choosing the appropriate amount of total debt. Cash flow considerations were also of paramount importance in the decision to lease all asset types. Leasing might be considered preferable, when an

agreement permits cancellation with minimum penalty, in the face of cash flow problems, when other forms of debt require repayment.

There is evidence to suggest that debt is favoured for the tax advantage of interest deductions, and that the benefit attached to this depends to some extent on the availability of other non-taxable deductions. Tax reasons also appear to feature in the leasing decision. Importance was attached to the total tax deductibility of lease rentals, when capital allowances are unavailable on the acquisition of land and buildings. Also, the ability to transfer capital tax allowances to the lessor, in exchange for lower rentals, appears to exert some influence over the leasing of other assets. Therefore, leasing may be considered favourable to debt in circumstances when no capital tax allowances are available, or when the lessor can put capital tax allowances to better use.

It appears that leasing may be chosen to acquire the use of land and buildings if either interest rates implicit in the lease are favourable, or in response to incentives such as rent-free periods extended by the lessor. Comments received from respondents indicated that land and buildings may be leased even when financing to purchase might be preferable. Access to particular property may only be available on lease. The leasing of other assets also depends on relative costs. It may be favoured because it provides total financing on any scale, in addition to the option of service and maintenance packages.

The importance attached to other factors associated with the issue of debt and the use of leasing appears to vary across firms, and likely depends on individual circumstances. There is some evidence to support the influence of various stakeholders, in relation to the financial distress potential of debt. Also, there appears to be a link between debt levels and certain elements of corporate strategy. In support of prior research (Drury and Braund, 1990), reasons for leasing are not necessarily consistent across firm size. Small firms appear more concerned with qualitative factors, whereas cost appears more likely to dominate the decision for large firms.

Findings appear to suggest that the current accounting treatment remains influential, at least to some extent. Approximately half of respondents considered the off-balance sheet nature of operating leases, with no impact on financial statement ratios, to be fairly to very important in the decision to lease. A significant number of respondents to the lease accounting reform questionnaire implicitly acknowledged the deliberate structuring of lease agreements to avoid capitalisation.

The loss of off-balance sheet advantage might be expected to have a negative impact on the future use of leasing. The new approach to lease accounting, published by the ASB in late 1999, proposes balance sheet recognition of all material lease agreements. On average, respondents agreed lease finance would become less attractive under the new proposals. This appears to be the result of increased compliance costs and operational difficulties, in addition to any perceived loss of off-balance sheet advantage. However, respondents refuted the suggestion that new assets, including property, would be purchased or constructed as a result. Therefore, leasing may still be considered favourable in relation to alternative sources of finance, despite the perceived disadvantages of the new accounting treatment. Alternatively, access to certain assets may only be available by lease.

A change in the accounting treatment of operating leases does not, therefore, look set to significantly alter the use of leasing in relation to other sources of debt finance. However, the use of leasing could potentially decline in relation to a decline in overall debt finance, in response to the proposed accounting changes. This is just one of the reactionary steps financial statement preparers could take to reduce the impact of bringing off-balance sheet operating lease obligations onto the balance sheet.

The balance sheet recognition of operating leases has the potential to alter financial performance indicators and stock market prices, and subsequently the decision-making of financial statement users. If lessees perceive these to be likely consequences, they may take reactionary steps to reduce the impact and prevent adverse user decisions. Reactionary steps by preparers depend on their perceptions of the significance of operating lease capitalisation and the degree of appreciation of operating lease obligations under the current accounting treatment. The vast

majority of preparers acknowledged that many operating lease agreements would give rise to balance sheet assets and liabilities under the new approach. The subsequent increase in reported gearing was also widely appreciated. Thus, financial statement preparers' perceptions of the impact of the new approach on reported measures of performance appears consistent with prior empirical evidence of the situation (Imhoff et al., 1993; Beattie et al., 1998).

The majority of survey respondents who measure financial gearing indicated that fixed operating and finance lease obligations were included. If preparers themselves recognise off balance sheet obligations, they might expect users to also recognise them. However, findings appear to suggest that preparers perceive that lenders either don't recognise, or cannot fully appreciate operating lease obligations from footnote disclosures. The need to renegotiate restrictive covenants and a reduction in credit ratings was anticipated under the new approach. On average, preparers perceived that the new approach would improve the evaluation of long-term financial commitments, and company comparisons made by users in general. There appeared to be a reluctance to admit that decision-making is impaired under the current treatment. However, the evidence was neutral, and thus an inability to fully appreciate operating leases was not completely denied. Irrespective, preparers, on average, perceived that investment analysts and other users are currently required to estimate the balance sheet impact of operating leases with limited information.

On balance, findings appear to suggest that financial statement preparers perceive that operating lease capitalisation will affect users' decision-making. If adverse user decision-making is to be avoided, preventative steps look likely. Preparers did not totally dismiss a subsequent decline in UK investment and the overall use of debt finance, which includes leasing. On average, the response was neutral. However, a neutral response is not surprising given that survey respondents indicated that the financing decision is the most flexible in relation to investment and dividend needs. Preparers may be reluctant to prevent potentially adverse decision-making at the cost of passing up lucrative investment opportunities. However, a decline in investment and debt financing might result in situations when the consequences of adverse decision-making by users are considered more severe.

Any opportunity to minimise balance sheet obligations, by manipulation of the new treatment, is likely to be exercised in light of the current manipulation of SSAP 21. It has been suggested that the new approach is open to manipulation through the use of renewal options (FLA and The Association of Corporate Treasurers' responses to ASB, 2000) The exercise of renewal options is not anticipated under the new approach. Balance sheet obligations could, therefore, be potentially minimised by entering lease agreements of short fixed terms, whilst guaranteeing operating requirements with the option of renewal. The majority of preparers favoured this approach. On average, they agreed shorter lease terms would result. If the ASB is to meet the objective of providing improved information for decision-making, the possibility of manipulation through the use of renewal options warrants serious consideration.

The impact of the new approach to lease accounting on users' decision-making depends on the reactionary steps preparers take. However, it also depends on the extent to which users actually appreciate operating lease obligations under the current treatment. Prior UK evidence in relation to the recognition versus disclosure of operating lease obligations does not appear to exist. In the present study, empirical results provide evidence of a positive relationship between equity risk and an adjustment for operating lease liability from a process of constructive capitalisation. Findings suggest that UK investors/analysts appreciate operating lease obligations from footnote disclosures. Operating lease disclosures appear to be currently recognised in the UK markets' assessments of equity risk. The new approach requiring balance sheet recognition of operating leases might, therefore, have less impact on security prices than expected. Although the present study implies operating leases are currently appreciated, the degree to which they can be fully appreciated remains unclear. Subjective judgements and assumptions regarding total and remaining lease lives and interest rates are necessary in order to follow a process of constructive capitalisation. The positive relationship found between equity risk and operating lease adjustment was not significant at high levels of confidence. This could highlight that investors/analysts make different judgements and assumptions. An over/under estimation of operating lease obligations from the current accounting treatment appears possible. The revaluation

of securities, in response to the balance sheet recognition of operating lease obligations under the new approach, is not beyond the realms of possibility.

In short, leasing is a significant source of company finance in the present business environment. Although tax and off-balance sheet advantages remain a feature, they do not appear to dominate the leasing decision in the current climate. The preference for leasing over other forms of debt is, therefore, not anticipated to change in response to proposals to remove the off-balance sheet treatment of operating leases. However, the new accounting approach may not be without consequence. Where possible, financial statement preparers are likely to take reactionary steps to minimise balance sheet obligations. At the very least, this could involve exercising any opportunity to manipulate the new accounting treatment. It may extend to reduced investment and a decline in levels of debt financing, including leasing. Further economic consequences, such as the revaluation of securities, may arise if reactionary steps are ineffective.

The present study has contributed extensively in relation to knowledge of the present and anticipated future role of leasing in the financing decisions of UK companies. It provides a sound foundation for future research to build on, in addition to highlighting areas of immediate focus.

17.2: Future research

The present study has provided a valuable contribution to the capital structure debate. Findings suggest that it would seem inappropriate for future capital structure research to focus on proving alternative static trade-off and pecking order theories. It appears necessary for future research to adopt a modified pecking order approach, in which features from both theories are accommodated. Although beyond the scope of this thesis, the opportunity exists to analyse the capital structure of responding companies according to their response in relation to adopting a target capital structure and following a hierarchy of sources.

The evidence from the leasing and corporate financing decisions questionnaire has important implications for future research. The analysis of accounting/company data to establish relationships between debt and leasing ratios, and other firm

characteristics dominates previous research. The vast majority of studies have ignored off-balance sheet operating lease obligations. According to a significant proportion of participants in the present study, balance sheet ratios are adjusted to include fixed operating lease obligations in their decision-making process. The use of off-balance sheet leasing is significant, and it is considered to consume debt capacity. By ignoring off-balance sheet operating leases, prior evidence thus appears to be based on a somewhat partial analysis of financing decisions. Future analysis of accounting/company data including off-balance sheet lease obligations appears to be necessary.

In addition to excluding off-balance sheet operating leases, prior evidence of relationships between firm characteristics and financial gearing is, in certain cases, somewhat conflicting. It is also difficult to interpret precisely the underlying construct that explanatory variables are capturing. Moreover, relationships are likely to exist between the various firm characteristics employed as explanatory variables. The absence of rigorous diagnostic testing in the majority of prior studies is a serious cause for concern. A thorough analysis of the relationships between firm characteristics themselves, outwith financial gearing, might provide the most appropriate set of independent variables to include in a regression model of capital structure determinants. The factors identified in the present study provide a focus for establishing a set of variables.

Prior studies, which have linked corporate strategy and capital structure, have employed proxies to represent alternative strategies. In the present study, respondents classed their companies in terms of alternative management, competitive and expansion strategies. The opportunity therefore exists to incorporate these classifications as dummy variables in a regression model, to further investigate the link between capital structure and the corporate strategy of these companies.

The findings of the leasing and corporate financing decisions questionnaire suggest that the different capital structure theories do not appear to exist as pure alternatives. In reality, debt levels, including lease levels, appear to be the product of circumstance. They are determined in relation to the benefits and costs associated

with all sources of finance, at the time additional finance is required. The benefits and costs associated with alternative finance sources differ across firms, as does the relative importance attached to them, and the requirement for funding in terms of investment, dividend payout and operations. The corporate financing decision is complex and multidimensional, and essentially situation specific. Future research would benefit from studying the process of finance decisions in context through an in-depth, individual case-study approach. The present study provides an analysis of UK corporate financing decisions for a large sample. Further analysis of individual companies would identify when and why companies deviate from the general theme. The information identified as required at the interview stage in the present study provides a foundation for compiling information on an individual case basis. The follow-up interviews in the present study were mothballed in relation to this thesis. However, an attempt to re-establish contact with survey respondents, in the development of a case-study approach, is a possibility. It may be an avenue worthy of pursuit in advance of the process of soliciting the co-operation of entirely new subjects.

In the present study, agency costs in the form of restrictive covenants appeared to be important when determining the level of debt. However, the evidence in relation to leasing being beneficial in terms of restrictive covenants was not conclusive. Further investigation is required in relation to the impact of lease obligations on restrictive covenants. An investigation from a lender's perspective may prove beneficial. An alternative perspective might also be adopted in relation to the determinants of leasing. Lessors, the providers of lease finance, must have insight into what makes leasing attractive under what circumstance. Lessors market and sell lease finance, their commercial success depends on such knowledge.

The evidence from the lease accounting reform questionnaire has important implications for policy makers. The new approach of accounting for specific features appears to fall short of developing into a quality lease accounting standard. The proposed treatment apparently fails in terms of costs outweighing benefits, operational difficulties, and failure to report economic substance. However, the evidence is biased towards the views and opinions of individual account preparers. The views and opinions of individual financial statement users are necessary in

order to be fully objective. This creates an opportunity for immediate research, if the findings are to be of benefit during the standard setting process.

The present study suggests that UK investors/analysts estimate operating lease obligations from footnote disclosures. However, the accuracy with which estimates are made remains open to investigation. In advance of a new lease accounting standard, opportunities to assess the accuracy are limited. However, an experimental approach, in which estimates from footnote disclosures are compared to actual obligations from contract details, is a possibility. If the new approach to lease accounting becomes mandatory, an indication of the accuracy of current estimates might be established by observing any revaluation of securities. An analysis of capital structure pre and post the introduction of the new approach would also provide insight into the extent operating lease obligations are currently appreciated. Research post the introduction of the new approach might be considered irrelevant to policy makers in relation to leasing. However, the opportunity exists to further contribute to policy making in general, by using leasing to provide additional evidence to add to the overall recognition versus disclosure debate.

Appendices

Appendix 1: Covering letter used in pilot testing

Dear Sir/Madam

Leasing and Corporate Financing Decisions Questionnaire: Pilot Testing

Request for your assistance to pilot test a questionnaire designed to provide insight into the corporate financing decision- making processes of UK companies.

The questionnaire is aimed at finance directors of UK public limited companies, whose experience and opinions are of paramount importance. You have been selected as part of a small group to assist in the development stage. Approximately 800 companies will receive the final version of the questionnaire.

We are investigating the determinants of corporate capital structure generally, but with a specific interest in the role of leasing as a source of finance. This emphasis is especially topical, given the recent publication of proposals to radically change the accounting treatment of leases. Your thoughts are equally important irrespective of the level of leasing undertaken by your company.

This project is part of an ongoing programme of research in leasing and corporate finance. We are concurrently investigating finance director's views on lease accounting treatment. Previous areas of investigation have included the impact of constructive capitalisation of operating leases on key accounting ratios, lease – debt substitutability and the recognition of operating leases in the market's assessment of equity risk. All our findings to date have been published or are awaiting publication in leading academic journals. We have also disseminated our findings via professional journals.

We appreciate there are numerous demands on your time. We do, however, ask that you find the time to complete the enclosed questionnaire and answer the questions specifically included for pilot testing. Your participation is crucial in the development of a sound research instrument. It will ensure that the questions being asked are clear, unambiguous and appear relevant to responders. A self-addressed stamped envelope is provided for your convenience. Please return the questionnaire even if you are unable or unwilling to participate in this pilot testing. An indication of the reason for non-participation would be most helpful.

All information you provide is confidential. It will not, at any time, be publicly associated with you or your company.

Thank you for your assistance.

Yours faithfully

Vivien Beattie, MA, PhD, CA Professor	Alan Goodacre BSc, PhD, ACA Senior Lecturer	Sarah Jane Thomson, BAcc, MSc PhD Research Student

Appendix 2: Questions for pilot testing

Having completed the questionnaire, please consider the following questions:

1. What was your initial reaction to the subject matter of the questionnaire?

2. What was your initial reaction to the length of the questionnaire? Approximately, how much time did it take to complete?

3. What was your initial reaction to the format/layout of the questionnaire?

4. What questions seemed most relevant / least relevant? Were any difficult to answer? Would you recommend the withdrawal of any particular question?

5. Were any questions unclear or ambiguous? Please include any suggestions for improving clarity?

6. How did you find the instructions for completion? Were they clear or did they require more emphasising?

7. How did you find the ordering of the questions?

8. Any other comments/observations?

Appendix 3: Financing decisions questionnaire

LEASING AND CORPORATE FINANCING DECISIONS

Notes about the questionnaire

We hope that all applicable questions will be completed by all respondents. If, however, you do not wish to answer certain questions or are unable to do so, we are keen that your replies to the others should remain unaffected.

Not all questions need to be answered by all respondents – please follow the directional instructions.

All answers will remain confidential and will not be publicly associated with your company's identity at any stage.

If there are any queries concerning the completion of this questionnaire,
Please contact:
Sarah Jane Thomson
Telephone: 01786 467305
e mail: S.J.Thomson@stir.ac.uk

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General instructions on completion:
Where options are provided, please tick the appropriate box or circle the appropriate number from the key provided
Please make use of the 'don't know' category where appropriate

IMPORTANT-PLEASE READ BEFORE COMPLETING QUESTIONNAIRE

Please interpret the following terms in this way:

Capital structure: the mix of **debt finance** and **equity finance**

Debt finance : long-term debt, short-term debt and lease finance

Equity finance: internal reserves (eg. retained profit) as well as ordinary and preference share capital

Target capital structure: a policy of using approximately constant proportions of debt and equity finance (this includes a policy of using zero debt finance)

Section A: Determinants of capital structure

The questions in this section ask for some information about your company's capital structure decision-making processes.

1 To what extent does your company seek to maintain a target capital structure by using approximately constant proportions of debt finance and equity finance (even if that policy is one of zero debt finance)?

(a) No target ☐ *Go to Q5*

(b) A flexible target ☐ *Continue to Q2*

(c) A reasonably strict target ☐ *Continue to Q2*

2 What is your company's target amount of debt (expressed as a proportion of total (ie. debt plus equity) finance)? ☐ %

3 Who/what is influential in setting target capital structure ratios?
Rank the following in order of importance (1 being most important, 8 being least important)

(a) Company senior management ☐

(b) Investment bankers ☐

(c) Commercial bankers ☐

(d) Major trade creditors ☐

(e) Outside investment analysts ☐

(f) Existing shareholders ☐

(g) Potential shareholders ☐

(h) Comparison with ratios of industry competitors ☐

(i) Debt covenants ☐

4 Does your company formally review capital structure targets on a regular basis (e.g. every three years)?

Yes ☐ No ☐

Go to Q5

***If no**, please specify what would trigger a review*

.....

5 Given an attractive new growth opportunity that could not be taken without departing from your existing capital structure, cutting dividends or selling off other assets, what action is your company most likely to take?

(a) Forgo growth opportunity ☐

(b) Deviate from existing capital structure ☐

(c) Cut dividends ☐

(d) Sell off other assets ☐

(e) Don't know ☐

6 Does your company follow a hierarchy in which the most favoured sources of finance are exhausted before other sources?

Yes ☐ No ☐ *Go to Q7*

If yes, rank the following sources of long term finance (1 being the most favoured, 8 being the least favoured)

(a) Internal reserves (ie. surplus cash) ☐
(b) Ordinary shares ☐
(c) Straight debt ☐
(d) Convertible debt ☐
(e) Finance leases ☐
(f) Operating leases ☐
(g) Straight preferred shares ☐
(h) Convertible preferred shares ☐

7 Please indicate the relative importance of the following factors in choosing the appropriate amount of total debt (even if zero) for *your* company.

Key :1 - not important at all, 2 - of little importance, 3 - fairly important, 4 - important, 5 - very important, DK - don't know.

	Not imp	Of little imp	Fairly imp	Imp	Very imp	Don't Know
(a) The tax advantage of interest deductions to the company	1	2	3	4	5	DK
(b) The personal tax cost your investors face when they receive interest income	1	2	3	4	5	DK
(c) The level of other non-taxable deductions (eg capital allowances) available to the company	1	2	3	4	5	DK
(d) The potential costs of bankruptcy, near- bankruptcy or financial distress	1	2	3	4	5	DK
(e) Ensuring the long-term survivability of the company	1	2	3	4	5	DK
(f) Ensuring that customers/suppliers are not worried about the company's survival	1	2	3	4	5	DK
(g) Restrictive covenants imposed by debt providers	1	2	3	4	5	DK
(h) Avoiding the need to issue equity (which would dilute existing shareholders' claims/voting proportions)	1	2	3	4	5	DK
(i) The projected cash flow or earnings from assets financed	1	2	3	4	5	DK
(j) Ensuring that a large proportion of cash flow is committed to interest payments to provide a disciplinary control on management	1	2	3	4	5	DK
(k) Preventing the company from becoming a take over target	1	2	3	4	5	DK
(l) The level of interest rates	1	2	3	4	5	DK
(m) The volatility of the company's earnings and cash flows	1	2	3	4	5	DK

8 Which of the following *best* describes how financing decisions are made in your company?

By agreement between the board of directors based on:
(a) general discussion based on individual opinions ☐
(b) recommendations provided by finance director ☐
(c) information provided by finance director ☐
(d) The board of directors supports decisions made by finance director ☐

9 Does your company believe that there is some maximum amount of debt financing that should not be surpassed?

Yes ☐ No ☐ *Go to Q10*

If yes, how is the maximum amount defined?

(a) By limit of balance sheet gearing ratio (debt-to-equity) ☐

(b) By limit of income statement gearing ratio (interest coverage) ☐

(c) By maintaining a bond rating ☐

(d) Other ☐
(*please specify* .....)

10 Does your company measure financial gearing?

Yes ☐ No ☐ *Go to Q13*

If yes, how does your company measure financial gearing? *Please indicate the relative importance of the following financial gearing measures in your company's financing decision procedures.*

1 - not used, 2 - of little importance, 3 - fairly important, 4 - important, 5 - very important	Not used	Of little imp	Fairly imp	Imp	Very imp
(a) Net debt divided by equity	1	2	3	4	5
(b) Long-term debt divided by equity	1	2	3	4	5
(c) Long-term debt divided by total debt plus equity	1	2	3	4	5
(d) Interest cover, measured as earnings before interest and taxes divided by total interest expense	1	2	3	4	5
(e) Interest cover, measured as earnings before interest and taxes divided by interest expense plus the before tax equivalent of preference dividend payments	1	2	3	4	5
(f) Other (*please specify* .....)	1	2	3	4	5

11 If your company leases any assets, do your calculations of the various financial gearing measures recognise the fixed payments associated with finance and operating leases?

Yes ☐

No ☐

Do not lease ☐

12 If your company computes and uses a debt to equity ratio in its financing decisions, how is it calculated? By using:

(a) Book values (i.e. values for the debt and equity components that appear on the balance sheet) ☐

(b) Market values (i.e. is the current values for the debt and equity components obtainable in the market place) ☐

13 Does your company have a policy for maintaining spare borrowing capacity? Yes ☐ No ☐

If yes, please indicate what % of existing total long-term borrowing is maintained as spare: ☐ %
and indicate the nature and source of spare borrowing capacity (tick all applicable options)

(a) Debentures ☐
(b) Unsecured loans ☐
(c) Secured loans ☐
(d) Leasing / hire purchase ☐
(e) Mortgage lending ☐
(f) Overdraft facility ☐
(g) Other ☐
(*please specify* .....)

and indicate why your company has a policy of maintaining spare borrowing capacity (tick all applicable options)

(a) For unplanned opportunities ☐
(b) Reserve for crisis ☐
(c) For special projects ☐
(d) For acquisitions ☐
(e) Other ☐
(*please specify* .....)

14 Has your company seriously considered issuing debt in foreign countries and/or currencies? Yes ☐ No ☐ ***Go to Q15***

If yes, please indicate the relative importance of the following factors in your company's consideration
Key: 1 - strongly disagree, 2 -disagree, 3 - neutral, 4 - agree, 5 - strongly agree, DK - don't know.

	Strongly disagree				Strongly agree	
(a) Favourable tax treatment relative to UK	1	2	3	4	5	DK
(b) Locating the 'source of funds' close to the 'use of funds'	1	2	3	4	5	DK
(c) Foreign regulation requires us to issue debt abroad	1	2	3	4	5	DK
(d) Foreign interest rates are lower than domestic rates	1	2	3	4	5	DK
(e) Providing a natural hedge (e.g., if foreign currency devalues, not obligated to pay interest in £ sterling)	1	2	3	4	5	DK

Questions 15 to 19 ask for some information relating to the context in which financing decisions are made.

15 Which of the following *best* describes your company's competitive strategy?

(a) We compete by offering products/services at a lower cost compared to our competitors ☐

(b) We compete by differentiating our products/services from those of our competitors ☐

(c) Due to their unique nature, our products/services are not in direct competition with others ☐

(d) Other ☐
(Please describe.....)

16 Which of the following *best* describes how your company is managed?

(a) Centrally as an entire company (ie. not divisionalised) ☐

(b) By geographical area ☐

(c) By product/service (i.e. line of business) ☐

17 Has your company previously experienced, is currently experiencing or is expecting to experience a program of business expansion?

Yes ☐ No ☐ ***Go to Q18***

If yes, which of the following *best* describes your company's expansion strategy

(a) Integrating the activities of our suppliers and customers with our existing activities ☐

(b) Diversifying into business activities which are related to our existing activities ☐

(c) Diversifying into business activities which are totally unrelated to our existing activities ☐

18 Does your company offer management incentive schemes? Yes ☐ No ☐ ***Go to Q19***

If yes, what form do the schemes take? *(Please tick all that apply)*

(a) Bonus linked to shareholder value (share price) ☐

(b) Bonus linked to profitability ☐

(c) Share option schemes ☐

(d) Other ☐
(please specify .....)

19 Please indicate, approximately, the % of the time you would estimate that your company's ordinary shares are fairly priced by the market:

(a) 0% ☐

(b) 1-25% ☐

(c) 26-75% ☐

(d) 76-99% ☐

(e) 100% ☐

20 Please indicate the extent to which you agree with the following statements regarding the choice between *short- and long-term debt*? (If you do not use debt finance, go to Q21)

1 - strongly disagree, 2 - disagree, 3 - neutral, 4 - agree, 5 - strongly agree, DK - don't know

	Strongly disagree				Strongly agree	
(a) We borrow short-term when short-term interest rates are low compared to long-term rates	1	2	3	4	5	DK
(b) We match the maturity of debt with the expected life of our assets	1	2	3	4	5	DK
(c) We borrow short-term when we are waiting for long-term market interest rates to decline	1	2	3	4	5	DK
(d) We borrow short-term so that returns from new projects can be captured more fully by shareholders, rather than committing to pay long-term profits as interest to debtholders	1	2	3	4	5	DK
(e) We expect our credit rating to improve, so we borrow short-term until it does	1	2	3	4	5	DK
(f) Borrowing short-term reduces the chance that our company will want to take on risky projects	1	2	3	4	5	DK
(g) We borrow long-term to minimise the risk of having to refinance in 'bad times'	1	2	3	4	5	DK
(h) Other	1	2	3	4	5	DK

(*please specify* .....)

21 Any additional information on how your company's capital structure is determined?

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Section B: Attitudes to general statements regarding the determinants of capital structure

1 Please indicate the extent to which you agree with the following *general statements* in the context of UK listed company's financing decisions?

Key: 1 - strongly disagree, 2 - disagree, 3 - neutral, 4 - agree, 5 - strongly agree, DK - don't know.

	Strongly disagree				Strongly agree	
(a) The use of debt financing would decrease relative to equity if bond interest were no longer tax deductible by the company	1	2	3	4	5	DK
(b) The decision to issue debt or equity is affected by the existence of tax loss carry forwards	1	2	3	4	5	DK
(c) The present value of interest tax shields is balanced with the present value of possible bankruptcy costs	1	2	3	4	5	DK
(d) If bankruptcy occurred, finance directors would, in general, find comparable positions of employment elsewhere	1	2	3	4	5	DK
(e) If a company were more dependent on research and development for its success, its debt to equity ratio would be lower	1	2	3	4	5	DK
(f) Restrictive covenants might be suggested to a doubtful lender in the hopes of convincing the lender to grant a loan	1	2	3	4	5	DK
(g) Private placements offer a satisfactory exchange of information between a company and investors without publicising proprietory information in full	1	2	3	4	5	DK
(h) If a company could issue unsecured long term debt at the same after-issue, after-tax cost of secured debt, it would increase its use of debt financing	1	2	3	4	5	DK
(i) In making debt and equity decisions, a company considers the market response to new issues of debt and equity	1	2	3	4	5	DK
(j) A decision to issue long term debt sends a favourable signal to the market place concerning future long term prospects	1	2	3	4	5	DK
(k) A decision to issue shares sends an unfavourable signal to the market place concerning future long term prospects	1	2	3	4	5	DK
(l) Share price usually declines when debt is issued	1	2	3	4	5	DK
(m) A company would issue debt when equity is undervalued by the market	1	2	3	4	5	DK
(n) A company would issue shares to dilute the holdings of certain shareholders	1	2	3	4	5	DK
(o) A company issues debt when recent profits are not sufficient to fund activities	1	2	3	4	5	DK
(p) A company issues shares when prices are high, even though present needs are not great, in order to build up a long-term fund cushion	1	2	3	4	5	DK
(q) Issuing debt is delayed because of transaction costs and fees, and retiring debt is delayed because of recapitalisation costs and fees	1	2	3	4	5	DK

Section C: Leasing policy

The questions in this section ask for information about your company's leasing policy in relation to land and buildings and all other types of asset.

1 Does your company use, has it used, or would it consider using leasing to obtain access to business assets?

Yes ☐

No ☐ *Go to Q8*

If yes , please indicate, for each asset category and decision horizon, the type of lease contract generally adopted:

FL - finance leasing under which assets and liabilities are recorded on the balance sheet

OL - operating leasing under which assets and liabilities are not recorded on the balance sheet

Asset category:	**Decision horizon:** Last years		Currently		Would consider	
(a) Land and buildings	FL	OL	FL	OL	FL	OL
(b) Plant and machinery	FL	OL	FL	OL	FL	OL
(c) Office equipment	FL	OL	FL	OL	FL	OL
(d) Computer equipment	FL	OL	FL	OL	FL	OL
(e) Vehicles	FL	OL	FL	OL	FL	OL
(f) Other (*please specify* .....)	FL	OL	FL	OL	FL	OL

2 In making a lease decision, which of the following *best* describes your company's actions?

(a) We do not perform any type of quantitative analysis but rely on judgement and experience ☐

(b) We do not perform any type of quantitative analysis because we simply prefer to lease some types of asset ☐

(c) We quantitatively analyse a leasing alternative only if the asset would have been profitable on a purchase basis ☐

(d) We quantitatively analyse the potential of leasing an asset even if the purchase of the asset would not be considered profitable ☐

3 With which alternative sources of finance is leasing compared? *(Please tick all that apply)*

(a) No comparison made ☐

(b) Hire purchase ☐

(c) Bank borrowing ☐

(d) All forms of debt rather than a specific type ☐

(e) Internal finance (eg. retained profit) ☐

(f) Other ☐
(*please specify* .....)

4 How does leasing fit in with the overall financing decisions within your company?
(Please tick all that apply)

(a) Leasing policies are set centrally (e.g. by our financing department) ☐
(b) We do not have general leasing policies ☐
(c) Leasing decisions are taken centrally (e.g. by our financing department) ☐
(d) Generally, we prefer to lease assets whenever possible ☐
(e) We consider the leasing alternative in all asset financing decisions ☐
(f) We only lease specific asset types (e.g. land and buildings, vehicles) ☐
(g) We have a target proportion (or £value) of assets to be financed by leasing ☐
(h) We take advantage of good leasing finance deals if/when they arise ☐
(i) We use leasing to solve specific financing problems ☐

5 Please indicate the relative importance of the following factors in your company's decision to lease land and buildings and other assets.
Key: 1 - not important at all, 2 - of little importance, 3 - fairly important, 4 - important, 5 - very important, DK - don't know.

	Land and Buildings						Other Assets					
	Not imp	Of little imp	Fairly imp	Imp	Very imp	Don't Know	Not imp	Of little imp	Fairly imp	Imp	Very imp	Don't Know
(a) Expanding overall debt-type capacity	1	2	3	4	5	DK	1	2	3	4	5	DK
(b) Avoiding large capital outlay	1	2	3	4	5	DK	1	2	3	4	5	DK
(c) Positive outcome to quantitative analysis	1	2	3	4	5	DK	1	2	3	4	5	DK
(d) Rate of interest implicit in lease compared to cost of borrowing to purchase	1	2	3	4	5	DK	1	2	3	4	5	DK
(e) Leasing is easier to arrange from an administrative point of view	1	2	3	4	5	DK	1	2	3	4	5	DK
(f) Leasing has the ability to offer a complete package including, for example, service and maintenance agreements	1	2	3	4	5	DK	1	2	3	4	5	DK
(g) Leasing permits the total financing of an asset (apart from an advance rental deposit)	1	2	3	4	5	DK	1	2	3	4	5	DK
(h) Leasing can be arranged so rental payments increase over the agreement, or the final payment is a balloon rental, enabling low rentals to be charged early on	1	2	3	4	5	DK	1	2	3	4	5	DK
(i) Incentives to lease given by lessor (e.g.rent-free periods or reverse premiums)	1	2	3	4	5	DK	1	2	3	4	5	DK
(j) Lease covenants are generally less restrictive than debt covenants	1	2	3	4	5	DK	1	2	3	4	5	DK

	Land and Buildings						Other Assets					
	Not imp	Of little imp	Fairly imp	Imp	Very imp	Don't Know	Not imp	Of little imp	Fairly imp	Imp	Very imp	Don't Know
(k) Leasing has minimal impact on measures used in our current debt covenants	1	2	3	4	5	DK	1	2	3	4	5	DK
(l) Operating leases are not accounted for on the balance sheet and have no impact on financial accounting ratios	1	2	3	4	5	DK	1	2	3	4	5	DK
(m) Operating lease expenditure avoids capital expenditure controls	1	2	3	4	5	DK	1	2	3	4	5	DK
(n) Conservation of cash flow	1	2	3	4	5	DK	1	2	3	4	5	DK
(o) Lease rentals are tax deductible but capital allowances are not available on assets purchased	1	2	3	4	5	DK	1	2	3	4	5	DK
(p) Leasing can reduce/eliminate the risk of significant cost of transferring ownership at the end of the contract	1	2	3	4	5	DK	1	2	3	4	5	DK
(q) Higher disposal value of leased property because leasing company has better access to/knowledge of markets	1	2	3	4	5	DK	1	2	3	4	5	DK
(r) Lease rentals contingent on sales revenue (or profits) can reduce company exposure to economic or business downturns	1	2	3	4	5	DK	1	2	3	4	5	DK
(s) Lease agreements are flexible. They can be drawn up to share asset risk and economic benefit between parties as required	1	2	3	4	5	DK	1	2	3	4	5	DK
(t) Legal consequences of default are less severe for leasing compared to borrowing	1	2	3	4	5	DK	1	2	3	4	5	DK
(u) Leasing can be obtained on any scale (e.g. single vehicle or an entire fleet, one office unit or an entire building)	1	2	3	4	5	DK	1	2	3	4	5	DK
(v) Leasing is conveniently offered at asset point of sale	1	2	3	4	5	DK	1	2	3	4	5	DK
(w) Transfer of capital tax allowances to leasing company reflected in lower lease rental cost	----------		N/A			----------	1	2	3	4	5	DK
(x) Expenditure under finance leasing, qualifying for capital tax allowances is time apportioned in the first year	----------		N/A			----------	1	2	3	4	5	DK
(y) Expenditure on long-life assets qualifying for capital tax allowances is restricted to a writing down allowance of 6%	----------		N/A			----------	1	2	3	4	5	DK

6 To what extent does your company enter lease agreements in which rental payments contain a contingent element, and what form does this take?

Key: 1 - Never, 2 - Seldom, 3 - Sometimes, 4 - Usually, 5 - Always

	Land and Buildings					Other Assets				
	Never				Always	Never				Always
Lease agreements in which rentals vary with:										
(a) usage	1	2	3	4	5	1	2	3	4	5
(b) revenue/profits derived from use of leased asset	1	2	3	4	5	1	2	3	4	5
(c) in line with prices (eg. upward-only rent reviews)	1	2	3	4	5	1	2	3	4	5

7 To what extent does your company enter agreements in which it has an interest in the residual value of the leased asset and what form does this take?

	Land and Buildings					Other Assets				
	Never				Always	Never				Always
Lease agreements in which :										
(a) ownership is transferred to lessee at the end of the contract	1	2	3	4	5	1	2	3	4	5
(b) a guarantee is given by lessee to pay compensation if the residual value is below a certain amount	1	2	3	4	5	1	2	3	4	5
(c) a surplus is received by lessee if the residual value is above a certain amount	1	2	3	4	5	1	2	3	4	5
(d) all or a share of the proceeds is received by lessee on the sale of the leased asset	1	2	3	4	5	1	2	3	4	5

8 Which of the following statements *best* describes the relationship between leasing and borrowing?

	Finance Leasing	Operating Leasing
(a) Leasing has no bearing on company borrowing	☐	☐
(b) Leasing complements borrowing and increases company overall borrowing capacity	☐	☐
(c) Leasing is a substitute for borrowing with lease commitments of, for example, £1million reducing borrowing capacity by:		
Exactly £1million	☐	☐
Less than	☐	☐
More than £1million	☐	☐
(d) Don't know	☐	☐

9 Please indicate the relative importance of the following factors in your company's decision *not to* lease or *even consider* leasing particular assets or asset-types.

1- not important at all, 2- of little importance, 3- fairly important, 4- important, 5- very important, DK- don't know

	Land and Buildings						Other Assets					
	Not imp	Of little imp	Fairly imp	Imp	Very imp	Don't Know	Not imp	Of little imp	Fairly imp	Imp	Very imp	Don't Know
(a) Leasing is more expensive than other sources of finance	1	2	3	4	5	DK	1	2	3	4	5	DK
(b) Company preference to have legal ownership	1	2	3	4	5	DK	1	2	3	4	5	DK
(c) Some key company executives are opposed to leasing	1	2	3	4	5	DK	1	2	3	4	5	DK
(d) Leasing indicates a source of financial weakness	1	2	3	4	5	DK	1	2	3	4	5	DK
(e) Leasing does not provide 100% finance due to the requirement of advance rentals	1	2	3	4	5	DK	1	2	3	4	5	DK
(f) Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at the lessor's discretion	1	2	3	4	5	DK	1	2	3	4	5	DK
(g) Loss of grants/taxation allowances if an asset is leased	1	2	3	4	5	DK	1	2	3	4	5	DK
(h) Assets acquired under lease agreements can be repossessed if company defaults	1	2	3	4	5	DK	1	2	3	4	5	DK
(i) Company assets are highly specialised or company specific, making it expensive for a lessor to bear the risk of obsolescence and the costs of purchase and disposal	1	2	3	4	5	DK	1	2	3	4	5	DK
(j) Other (*please specify* .....)	1	2	3	4	5	DK	1	2	3	4	5	DK

10 Do you have any general comments to make about corporate financing issues?

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Section D: General Information

Would you be willing to be interviewed to enable the issues raised in this questionnaire to be explored in more detail?

Yes ☐ No ☐

If yes, what form of communication would you prefer?

(a) Face-to-face interview ☐

(b) Telephone interview ☐

(c) Email dialogue ☐

(Please provide email address.....)

Completed by: .....

Position: .....

Please indicate if you would like to receive a summary of the results for this study:

All companies ☐

Industry sector ☐

As part of this research programme, we are surveying a sample of finance directors to investigate their views regarding the proposed changes to lease accounting.
Would you be interested in also taking part in this survey?

Yes ☐ **No** ☐

We greatly appreciate your help. Please return the completed questionnaire in the SAE provided to:

Sarah Jane Thomson
(Leasing and Corporate Financing Decisions)
Department of Accounting, Finance and Law
University of Stirling
Stirling
FK9 4LA

Appendix 4: Covering letter accompanying financing decisions questionnaire

Department of Accounting, Finance & Law
Faculty of Management
University of Stirling
Stirling FK9 4LA
Tel: 01786 467305 Fax: 01786 467308

3rd July 2000

Dear Sir/Madam

Leasing and Corporate Financing Decisions Questionnaire

Request for your assistance to provide insight into the corporate financing decision-making processes of UK companies at the beginning of the 21st century. As finance director of a UK public limited company, you are in the forefront of such decision making, and it is *your* experience and opinions that are of paramount importance.

We are investigating the determinants of corporate capital structure generally, but with a specific interest in leasing as a source of finance. Surprisingly, the role of leasing within capital structure has not been previously explored. Our emphasis is especially topical, given the recent publication of proposals to radically change the accounting treatment of leases. Your thoughts are equally important irrespective of the level of leasing undertaken by your company.

You have been selected from the population of UK quoted companies to participate in this survey, which is part of an ongoing research programme. We are concurrently investigating finance director's views on lease accounting treatment. Previous areas of investigation have included the impact of constructive capitalisation of operating leases on key accounting ratios, lease–debt substitutability and the recognition of operating leases in the market's assessment of equity risk. All our findings to date have been published or are awaiting publication in leading academic journals. We have also disseminated our findings via professional journals.

We appreciate there are numerous demands on your time. We do, however, ask that you find the time to complete the enclosed questionnaire and return it in the stamped self-addressed envelope provided. We would be delighted to supply you with a summary of our findings, across all companies and for your industrial sector by way of a thank you. This would allow you to benchmark your company's decision-making processes against those in your sector. Please return the questionnaire even if you are unable or unwilling to complete it. An indication of the reason for non-completion would be most helpful.

The number on the top right hand corner of the questionnaire is for identification purposes only. It will enable us to follow up non-respondents and analyse the responses we receive in greater detail. However, we stress that all information you provide is confidential. It will not, at any time, be publicly associated with you or your company.

Thank you for your assistance.

Yours faithfully

Vivien Beattie, MA, PhD, CA Professor	Alan Goodacre,BSc, PhD, ACA Senior Lecturer	Sarah Jane Thomson, BAcc, MSc PhD Research Student

Appendix 5: First reminder letter for Financing Decisions Questionnaire

17th July 2000

Dear Sir/Madam

Leasing and Corporate Financing Decisions Questionnaire

We have not, as yet, received back from you a completed Leasing and Corporate Financing Decisions questionnaire, which we mailed to you on 3rd July 2000.

Your experience and opinions are of paramount importance in providing insight into the corporate financing decision-making processes of UK companies at the beginning of the 21st century. Please fill in the questionnaire (if you have not already done so) to ensure that your views are included in the survey results. If you have responded within the last few days then please ignore this letter – and thank you.

If you are unable or unwilling to complete the questionnaire, please return it in the stamped addressed envelope provided. An indication of the reason for non-completion would be most helpful and it will render further reminders unnecessary.

Should you require another copy of the questionnaire, please contact:
Sarah Jane Thomson
Telephone: 01786 467305
Email: s.j.thomson@stir.ac.uk

Thank you for your assistance.

Yours faithfully

Sarah Jane Thomson, BAcc, MSc
PhD Research Student

Appendix 6: Second reminder letter for Financing Decisions Questionnaire

1st August 2000

Dear Sir/Madam

Leasing and Corporate Financing Decisions Questionnaire

On the 3rd July 2000, we initially requested your assistance to provide insight into the corporate financing decision-making processes of UK companies at the beginning of the 21st century. We have not, as yet, received your response.

We appreciate there are numerous demands on your time. However, as «INSERT» of a UK public limited company, you are in the forefront of such decision making, and it is *your* experience and opinions that are of paramount importance. Please fill in the enclosed questionnaire (if you have not already done so) and let your views count. Your thoughts are equally important irrespective of the level of leasing undertaken by your company. A stamped addressed envelope is enclosed for your convenience.

If you have responded within the last few days then please ignore this letter – and thank you. If you are unable or unwilling to complete the questionnaire, please return it in the envelope provided. An indication of the reason for non-completion would be most helpful.

Thank you for your assistance.

Yours faithfully

Vivien Beattie, MA, PhD, CA
Professor

Alan Goodacre, BSc, PhD, ACA
Senior Lecturer

Sarah Jane Thomson, BAcc, MSc
PhD Research Student

Appendix 7: Comparison of key questions on the basis of early and late respondents

Panel A: Target Capital Structure

	Percentage of respondents[2]				Chi-sq	p[1]
	Total (n=196)	Early (n=62)	Middle (n=66)	Late (n=63)		
No target	48	56	47	46		
Flexible target	37	29	39	40		
Reasonably strict target	14	15	14	14		
					2.136	0.711

Panel B: Hierarchy of Financial Sources

	Percentage of respondents[2]				Chi-sq	p[1]
	Total (n=190)	Early (n=61)	Middle (n=64)	Late (n=59)		
YES	60	62	66	49		
NO	40	38	34	51		
					3.803	0.149

Panel C: Spare Borrowing Capacity

	Percentage of respondents[2]				Chi-sq	p[1]
	Total (n=193)	Early (n=61)	Middle (n=65)	Late (n=61)		
YES	59	51	57	67		
NO	41	49	43	33		
					3.448	0.178

Panel D: Use of Leasing

	Percentage of respondents[2]				Chi-sq	p[1]
	Total (n=196)	Early (n=62)	Middle (n=66)	Late (n=62)		
YES	84	81	82	87		
NO	16	19	18	13		
					1.051	0.591

[1] Chi-square test procedure at 5% level in Minitab

[2] Number of respondents used in Chi-square test

Appendix 7: Comparison of key questions on the basis of early and late respondents continued

Panel E: The relative importance of factors in choosing the appropriate amount of total debt

		Total Respondents		Early		Late		
Row	**Question asked (abbreviated)**	**Mean**	**Stand Dev**	**Mean**	**Stand Dev**	**Mean**	**Stand Dev**	**Diff**
1	Ensuring long term survivability	4.41	0.88	4.28	0.83	4.47	0.84	-0.19
2	Projected cash flow / earnings	4.21	0.84	4.35	0.73	4.15	0.87	0.20
3	Volatility of earnings and cash flow	3.72	1.02	3.85	0.94	3.53	1.15	0.32
4	Ensuring customers /suppliers aren't worried about company survival	3.62	1.04	3.62	1.04	3.71	0.97	-0.09
5	Restrictive covenants	3.58	1.10	3.52	1.14	3.64	1.12	-0.12
6	Level of interest rates	3.52	0.91	3.55	0.81	3.09	1.06	0.46
7	Tax advantage of interest deductions	3.34	1.18	3.25	1.19	3.37	1.15	-0.12
8	Avoiding issue of equity to dilute existing shareholder's claims	3.25	1.09	3.37	1.21	3.09	1.06	0.28
9	Potential costs of bankruptcy/financial distress	2.95	1.58	2.93	1.62	3.02	1.49	-0.09
10	Level of other non-taxable deductions	2.93	1.02	2.88	1.01	3.05	1.13	-0.17
11	Preventing company becoming a take-over target	2.54	1.17	2.50	1.16	2.59	1.27	-0.09
12	Committing cash flow to interest payments as a disciplinary control on management	2.46	1.03	2.62	0.98	2.53	1.15	0.09
13	Personal tax cost facing investors	2.02	0.93	2.08	1.01	2.05	0.95	0.03

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 7: Comparison of key questions on the basis of early and late respondents continued

Panel F: The relative importance of factors in company decision to lease land and buildings

		Total Respondents		Early		Late		
Row	Factor (abbreviated)	Mean	Stand Dev	Mean	Stand Dev	Mean	Stand Dev	Diff
1	Avoiding large capital outlay	3.68	1.12	3.75	1.13	3.46	1.12	0.29
2	Conservation of cash flow	3.51	1.13	3.51	1.06	3.49	1.14	0.02
3	Rate of interest implicit in lease compared to cost of borrowing to purchase	3.42	1.06	3.26	1.06	3.49	0.99	-0.23
4	Positive outcome to quantitative analysis	3.14	1.21	2.86	1.23	3.66	1.03	-.80*
5	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	3.04	1.18	2.98	1.16	3.23	1.22	-0.25
6	Lease rentals are tax deductible but capital allowances are not available on assets purchased	2.92	1.13	2.86	1.16	2.86	1.1	0
7	Leasing can be obtained on any scale	2.82	1.24	2.78	1.22	3.13	1.17	-0.35
8	Leasing permits the total financing of an asset (apart from advance rental deposit)	2.7	1.19	2.93	1.25	2.66	1.19	0.27
9	Lease covenants are generally less restrictive than debt covenants	2.59	1.11	2.64	1.22	2.63	1.03	0.01
10	Operating leases not accounted for on the balance sheet and have no impact on financial accounting ratios	2.58	1.26	2.71	1.4	2.63	1.26	0.08
11	Leasing has the ability to offer a complete package	2.55	1.17	2.39	1.13	2.67	1.04	-0.28
12	Expanding overall debt-type capacity	2.4	1.13	2.41	1.13	2.52	1.06	-0.11
13	Leasing has minimal impact on measures used in current debt covenants	2.36	1.04	2.55	1.13	2.47	1.08	0.08
14	Leasing can reduce/eliminate the risk of ownership	2.31	1.02	2.02	0..96	2.66	1.14	-0.64*
15	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	2.3	1.06	2.22	0.96	2.51	1.15	-0.29
16	Leasing is conveniently offered at asset point of sale	2.19	1.2	2.21	1.25	2.26	1.25	-0.05
17	Leasing is easier to arrange from an administrative point of view	2.18	1.01	2.21	0.97	2.32	1.08	-0.11
18	Higher disposal value of leased property	2.13	0.98	1.98	0.79	2.47	1.16	0.49
19	Legal consequences of default are less severe for leasing	2.07	1.02	2.05	0.99	2	1.1	0.05
20	Contingent lease rentals can reduce company exposure to economic or business downturns	2.05	1.01	2.12	1.08	1.78	0.83	0.34
21	Leasing can be arranged so rental payments increase over agreement, or final payment is a balloon rental, enabling low rentals to be charged early on	1.95	0.94	2.16	1.09	1.84	0.72	0.32
22	Operating lease expenditure avoids capital expenditure controls	1.57	0.78	1.48	0.83	1.68	0.88	-0.2

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 7: Comparison of key questions on the basis of early and late respondents continued

Panel G: The relative importance of factors in company decision to lease other assets

		Total Respondents		Early		Late		
Row	Factor (abbreviated)	Mean	Stand Dev	Mean	Stand Dev	Mean	Stand Dev	Diff
1	Rate of interest implicit in lease compared to cost of borrowing to purchase	3.6	0.96	3.39	0.95	3.61	0.99	-0.22
2	Conservation of cash flow	3.57	1	3.57	0.93	3.63	0.93	-0.06
3	Avoiding large capital outlay	3.39	1.11	3.41	1.11	3.28	1.08	0.13
4	Positive outcome to quantitative analysis	3.18	1.24	2.86	1.25	3.59	1.02	-0.73*
5	Leasing has the ability to offer a complete package	3.11	1.2	2.93	1.20	3.20	1.23	-0.27
6	Leasing can be obtained on any scale	3.08	1.19	3.00	1.22	3.26	1.00	-0.26
7	Transfer of capital tax allowances to leasing company reflected in lower lease rental cost	3.08	1.05	3.21	0.95	3.11	0.97	0.10
8	Leasing permits the total financing of an asset (apart from advance rental deposit)	2.97	1.15	3.11	1.13	3.00	1.08	0.11
9	Lease rentals are tax deductible but capital allowances are not available on assets purchased	2.83	1.1	2.86	1.03	2.82	1.10	0.04
10	Operating leases not accounted for on the balance sheet and have no impact on financial accounting ratios	2.64	1.23	2.81	1.35	2.71	1.29	0.10
11	Leasing can reduce/eliminate the risk of ownership	2.51	1.02	2.30	1.04	2.90	1.07	-0.60*
12	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	2.51	1.07	2.32	0.99	2.62	1.11	-0.30
13	Leasing is easier to arrange from an administrative point of view	2.47	1.14	2.51	1.06	2.49	1.17	0.02
14	Lease covenants are generally less restrictive than debt covenants	2.47	1.16	2.45	1.15	2.54	1.21	-0.09
15	Expenditure under finance leasing, qualifying for capital tax allowances is time apportioned in first year	2.47	1.01	2.61	1.07	2.53	1.08	0.08
16	Expanding overall debt-type capacity	2.42	1.13	2.31	1.07	2.56	1.13	-0.25
17	Leasing is conveniently offered at asset point of sale	2.42	1.24	2.55	1.25	2.40	1.22	0.15
18	Leasing has minimal impact on measures used in current debt covenants	2.34	1.02	2.59	1.05	2.39	1.20	0.20
19	Expenditure on long-life assets qualifying for capital tax allowances is restricted to a WDA of 6%	2.29	0.93	2.27	0.92	2.48	0.96	-0.21
20	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	2.27	1.15	2.16	1.09	2.54	1.26	-0.38
21	Higher disposal value of leased property	2.27	1.01	2.07	0.91	2.49	1.15	-0.42
22	Leasing can be arranged so rental payments increase over agreement, or final payment is a balloon rental, enabling low rentals to be charged early on	2.12	1.05	2.27	1.14	2.07	0.99	0.20
23	Legal consequences of default are less severe for leasing	2.11	0.99	2.07	0.99	2.11	1.01	-0.04
24	Contingent lease rentals can reduce company exposure to economic or business downturns	2.01	0.93	2.00	1.03	1.89	0.87	0.11
25	Operating lease expenditure avoids capital expenditure controls	1.64	0.89	1.60	1.06	1.70	0.85	-0.10

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 7: Comparison of key questions on the basis of early and late respondents continued

Panel H: The relative importance of factors in company decision *not* to lease land and buildings

		Total Respondents		Early		Late		
Row	Factor (abbreviated)	Mean	Stand Dev	Mean	Stand Dev	Mean	Stand Dev	Diff
1	Leasing is more expensive than other sources of finance	3.36	1.27	3.39	1.24	3.41	1.42	-0.02
2	Company preference for legal ownership	2.98	1.37	3.10	1.39	2.94	1.44	0.16
3	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at lessor's discretion	2.77	1.20	2.60	1.16	2.67	1.24	-0.07
4	Loss of grants/taxation allowances if an asset is leased	2.32	1.08	2.44	1.11	2.43	1.18	0.01
5	Company assets are highly specialised or company specific, making it expensive for a lessor to bear the risk of obsolescence and the costs of purchase and disposal	2.11	1.18	2.04	1.18	2.30	1.15	-0.26
6	Assets acquired under lease agreements can be repossessed if company defaults	1.87	0.92	1.89	0.91	1.82	0.83	0.07
7	Some key company executives are opposed to leasing	1.71	0.97	1.57	0.94	1.83	1.02	-0.26
8	Leasing does not provide 100% finance due to the requirement of advance rentals	1.70	0.76	1.79	0.86	1.61	0.72	0.18
9	Leasing indicates a source of financial weakness	1.58	0.73	1.64	0.79	1.62	0.74	0.02

Panel I: The relative importance of factors in company decision *not* to lease other assets

		Total Respondents		Early		Late		
Row	Factor (abbreviated)	Mean	Stand Dev	Mean	Stand Dev	Mean	Stand Dev	Diff
1	Leasing is more expensive than other sources of finance	3.68	1.10	3.58	1.03	3.80	1.15	-0.22
2	Company preference for legal ownership	2.77	1.29	2.67	1.31	2.58	1.26	0.09
3	Company assets are highly specialised or company specific, making it expensive for a lessor to bear the risk of obsolescence and the costs of purchase and disposal	2.73	1.29	2.26	1.28	2.50	1.26	-0.24
4	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at lessor's discretion	2.58	1.14	2.41	1.06	2.59	1.15	-0.18
5	Loss of grants/taxation allowances if an asset is leased	2.43	1.09	2.41	1.04	2.60	1.14	-0.19
6	Assets acquired under lease agreements can be repossessed if company defaults	1.86	0.90	1.86	0.84	1.80	0.84	0.06
7	Some key company executives are opposed to leasing	1.80	1.05	1.56	0.87	1.90	1.13	-0.34
8	Leasing does not provide 100% finance due to the requirement of advance rentals	1.68	0.72	1.79	0.80	1.62	0.68	0.17
9	Leasing indicates a source of financial weakness	1.62	0.77	1.63	0.79	1.57	0.67	0.06

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 8: Comparison of key questions on the basis of high and low operating lease use[1]

Panel A: Target Capital Structure

	Percentage of respondents[3]				Chi-sq	p[2]
	Total (n=196)	Low (n=64)	Middle (n=62)	High (n=64)		
No target	48	36	50	47		
Flexible target	37	47	34	44		
Reasonably strict target	14	17	16	9		
					7.389	0.117

Panel B: Hierarchy of Financial Sources

	Percentage of respondents[3]				Chi-sq	p[2]
	Total (n=190)	Low (n=62)	Middle (n=61)	High (n=61)		
YES	60	58	57	67		
NO	40	42	43	33		
					2.542	0.28

Panel C: Spare Borrowing Capacity

	Percentage of respondents[3]				Chi-sq	p[2]
	Total (n=193)	Low (n=62)	Middle (n=64)	High (n=62)		
YES	59	53	69	60		
NO	41	47	31	40		
					5.392	0.067

Panel D: Use of Leasing

	Percentage of respondents[3]				Chi-sq	p[2]
	Total (n=196)	Low (n=64)	Middle (n=63)	High (n=64)		
YES	84	72	94	89		
NO	16	28	6	11		
					20.863	0.000

[1]Operating lease use=total operating lease rental in P&L/total sales
Low=0 to 0.0089, Medium=0.0090 to 0.0238, High=0.0243 to 0.6486

[2] Chi-square test procedure at 5% level in Minitab

[3] Number of respondents used in Chi-square test

Appendix 8: Comparison of key questions on the basis of high and low operating lease use[1] continued

Panel E: The relative importance of factors in choosing the appropriate amount of total debt

		Total Respondents		Low		High		
	Question asked							
	(abbreviated)	**Mean**	**Stand**	**Mean**	**Stand**	**Mean**	**Stand**	**Diff**
Row			**Dev**		**Dev**		**Dev**	
1	Ensuring long term survivability	4.41	0.88	4.36	0.89	4.48	0.81	-0.12
2	Projected cash flow / earnings	4.21	0.84	4.26	0.89	4.24	0.80	0.02
3	Volatility of earnings and cash flow	3.72	1.02	3.61	1.04	3.86	1.02	-0.25
4	Ensuring customers /suppliers aren't worried about company survival	3.62	1.04	3.47	1.07	3.65	1.03	-0.18
5	Restrictive covenants	3.58	1.10	3.59	1.09	3.71	1.01	-0.12
6	Level of interest rates	3.52	0.91	3.44	0.99	3.51	0.95	-0.07
7	Tax advantage of interest deductions	3.34	1.18	3.38	1.32	3.11	1.05	0.27
8	Avoiding issue of equity to dilute existing shareholder's claims	3.25	1.09	3.38	1.14	3.16	1.05	0.22
9	Potential costs of bankruptcy/financial distress	2.95	1.58	2.95	1.54	3.00	1.59	-0.05
10	Level of other non-taxable deductions	2.93	1.02	2.97	1.15	2.97	0.92	0.00
11	Preventing company becoming a take-over target	2.54	1.17	2.39	1.19	2.73	1.16	-0.34
12	Committing cash flow to interest payments as a disciplinary control on management	2.46	1.03	2.52	1.03	2.66	1.06	-0.14
13	Personal tax cost facing investors	2.02	0.93	1.97	0.96	1.95	0.88	0.02

[1]Operating lease use=total operating lease rental in P&L/total sales
Low=0 to 0.0089, Medium=0.0090 to 0.0238, High=0.0243 to 0.6486
* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 8: Comparison of key questions on the basis of high and low operating lease use[1] continued

Panel F: The relative importance of factors in company decision to lease land and buildings

		Total Respondents		Low		High		
Row	**Factor (abbreviated)**	**Mean**	**Stand Dev**	**Mean**	**Stand Dev**	**Mean**	**Stand Dev**	**Diff**
1	Avoiding large capital outlay	3.68	1.12	3.33	1.35	3.93	0.96	-0.60*
2	Conservation of cash flow	3.51	1.13	3.47	1.24	3.66	1.18	-0.19
3	Rate of interest implicit in lease compared to cost of borrowing to purchase	3.42	1.06	3.68	1.10	3.16	0.98	0.52*
4	Positive outcome to quantitative analysis	3.14	1.21	3.26	1.27	2.98	1.04	0.28
5	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	3.04	1.18	3.00	1.28	3.14	1.18	-0.14
6	Lease rentals are tax deductible but capital allowances are not available on assets purchased	2.92	1.13	3.06	1.15	2.94	1.05	0.12
7	Leasing can be obtained on any scale	2.82	1.24	2.71	1.36	2.86	1.23	-0.15
8	Leasing permits the total financing of an asset (apart from advance rental deposit)	2.7	1.19	2.40	1.17	2.88	1.29	-0.48
9	Lease covenants are generally less restrictive than debt covenants	2.59	1.11	2.53	1.27	2.70	1.06	-0.17
10	Operating leases not accounted for on the balance sheet and have no impact on financial accounting ratios	2.58	1.26	2.27	1.31	2.52	1.31	-0.25
11	Leasing has the ability to offer a complete package	2.55	1.17	2.50	1.16	2.53	1.16	-0.03
12	Expanding overall debt-type capacity	2.4	1.13	2.36	1.19	2.30	1.01	0.06
13	Leasing has minimal impact on measures used in current debt covenants	2.36	1.04	2.19	1.23	2.38	1.07	-0.19
14	Leasing can reduce/eliminate the risk of ownership	2.31	1.02	2.21	1.02	2.23	1.04	-0.02
15	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	2.3	1.06	2.50	0.94	2.24	1.11	0.26
16	Leasing is conveniently offered at asset point of sale	2.19	1.2	2.21	1.19	2.21	1.34	0.00
17	Leasing is easier to arrange from an administrative point of view	2.18	1.01	2.06	0.98	2.31	0.97	-0.25
18	Higher disposal value of leased property	2.13	0.98	2.09	0.95	2.13	0.92	-0.04
19	Legal consequences of default are less severe for leasing	2.07	1.02	2.21	1.14	1.84	0.95	0.37
20	Contingent lease rentals can reduce company exposure to economic or business downturns	2.05	1.01	2.16	0.90	2.17	1.20	-0.01
21	Leasing can be arranged so rental payments increase over agreement, or final payment is a balloon rental, enabling low rentals to be charged early on	1.95	0.94	1.94	1.13	1.94	0.80	0.00
22	Operating lease expenditure avoids capital expenditure controls	1.57	0.78	1.55	0.79	1.53	0.84	0.02

[1]Operating lease use=total operating lease rental in P&L/total sales
Low=0 to 0.0089, Medium=0.0090 to 0.0238, High=0.0243 to 0.6486
* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 8: Comparison of key questions on the basis of high and low operating lease use[1] continued

Panel G: The relative importance of factors in company decision to lease other assets

		Total Respondents		Low		High		
Row	**Factor (abbreviated)**	**Mean**	**Stand Dev**	**Mean**	**Stand Dev**	**Mean**	**Stand Dev**	**Diff**
1	Rate of interest implicit in lease compared to cost of borrowing to purchase	3.6	0.96	3.88	1.04	3.36	0.90	0.52*
2	Conservation of cash flow	3.57	1	3.55	1.15	3.92	0.80	-0.37
3	Avoiding large capital outlay	3.39	1.11	3.30	1.18	3.60	0.82	-0.30
4	Positive outcome to quantitative analysis	3.18	1.24	3.35	1.35	3.05	1.18	0.30
5	Leasing has the ability to offer a complete package	3.11	1.2	2.90	1.24	3.24	1.29	-0.34
6	Leasing can be obtained on any scale	3.08	1.19	2.87	1.22	3.32	1.22	-0.45
7	Transfer of capital tax allowances to leasing company reflected in lower lease rental cost	3.08	1.05	3.11	1.10	3.07	1.10	0.04
8	Leasing permits the total financing of an asset (apart from advance rental deposit)	2.97	1.15	2.71	1.25	3.33	1.10	-0.62*
9	Lease rentals are tax deductible but capital allowances are not available on assets purchased	2.83	1.1	3.00	1.03	2.82	1.23	0.18
10	Operating leases not accounted for on the balance sheet and have no impact on financial accounting ratios	2.64	1.23	2.47	1.22	2.67	1.32	-0.20
11	Leasing can reduce/eliminate the risk of ownership	2.51	1.02	2.19	1.02	2.51	0.99	-0.32
12	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	2.51	1.07	2.52	0.94	2.57	1.11	-0.05
13	Leasing is easier to arrange from an administrative point of view	2.47	1.14	2.27	1.14	2.76	1.15	-0.49
14	Lease covenants are generally less restrictive than debt covenants	2.47	1.16	2.46	1.33	2.48	1.15	-0.02
15	Expenditure under finance leasing, qualifying for capital tax allowances is time apportioned in first year	2.47	1.01	2.62	1.18	2.33	0.90	0.29
16	Expanding overall debt-type capacity	2.42	1.13	2.29	1.18	2.57	1.11	-0.28
17	Leasing is conveniently offered at asset point of sale	2.42	1.24	2.41	1.30	2.39	1.37	0.02
18	Leasing has minimal impact on measures used in current debt covenants	2.34	1.02	2.38	1.28	2.21	0.99	0.17
19	Expenditure on long-life assets qualifying for capital tax allowances is restricted to a WDA of 6%	2.29	0.93	2.31	1.03	2.27	0.95	0.04
20	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	2.27	1.15	2.44	1.37	2.13	0.99	0.31
21	Higher disposal value of leased property	2.27	1.01	2.16	0.90	2.31	1.09	-0.15
22	Leasing can be arranged so rental payments increase over agreement, or final payment is a balloon rental, enabling low rentals to be charged early on	2.12	1.05	2.05	1.24	2.32	0.98	-0.27
23	Legal consequences of default are less severe for leasing	2.11	0.99	2.19	1.10	1.98	1.00	0.21
24	Contingent lease rentals can reduce company exposure to economic or business downturns	2.01	0.93	2.00	0.87	2.08	1.01	-0.08
25	Operating lease expenditure avoids capital expenditure controls	1.64	0.89	1.56	0.84	1.71	1.06	-0.15

[1]Operating lease use=total operating lease rental in P&L/total sales
Low=0 to 0.0089, Medium=0.0090 to 0.0238, High=0.0243 to 0.6486
* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 8: Comparison of key questions on the basis of high and low operating lease use[1] continued

Panel H: The relative importance of factors in company decision *not* to lease land and buildings

		Total Respondents		Low		High		
Row	Factor (abbreviated)	Mean	Stand Dev	Mean	Stand Dev	Mean	Stand Dev	Diff
1	Leasing is more expensive than other sources of finance	3.36	1.27	3.71	1.09	3.10	1.33	0.61*
2	Company preference for legal ownership	2.98	1.37	3.32	1.37	2.78	1.36	0.54*
3	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at lessor's discretion	2.77	1.20	2.71	1.25	2.80	1.15	-0.09
4	Loss of grants/taxation allowances if an asset is leased	2.32	1.08	2.50	1.15	2.04	0.94	0.46*
5	Company assets are highly specialised or company specific, making it expensive for a lessor to bear the risk of obsolescence and the costs of purchase and disposal	2.11	1.18	2.27	1.13	1.85	1.13	0.42*
6	Assets acquired under lease agreements can be repossessed if company defaults	1.87	0.92	1.78	0.82	2.02	1.08	-0.24
7	Some key company executives are opposed to leasing	1.71	0.97	1.85	0.97	1.65	1.03	0.20
8	Leasing does not provide 100% finance due to the requirement of advance rentals	1.70	0.76	1.67	0.81	1.74	0.81	-0.07
9	Leasing indicates a source of financial weakness	1.58	0.73	1.71	0.86	1.54	0.68	0.17

Panel I: The relative importance of factors in company decision *not* to lease other assets

		Total Respondents		Low		High		
Row	Factor (abbreviated)	Mean	Stand Dev	Mean	Stand Dev	Mean	Stand Dev	Diff
1	Leasing is more expensive than other sources of finance	3.68	1.10	3.86	1.05	3.62	1.20	0.24
2	Company preference for legal ownership	2.77	1.29	2.93	1.35	2.79	1.26	0.14
3	Company assets are highly specialised or company specific, making it expensive for a lessor to bear the risk of obsolescence and the costs of purchase and disposal	2.73	1.29	2.51	1.32	2.06	1.16	0.45
4	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at lessor's discretion	2.58	1.14	2.56	1.16	2.41	1.17	0.15
5	Loss of grants/taxation allowances if an asset is leased	2.43	1.09	2.67	1.18	2.24	1.01	0.43
6	Assets acquired under lease agreements can be repossessed if company defaults	1.86	0.90	1.70	0.79	2.06	1.06	-0.36
7	Some key company executives are opposed to leasing	1.80	1.05	1.80	0.94	1.89	1.18	-0.09
8	Leasing does not provide 100% finance due to the requirement of advance rentals	1.68	0.72	1.62	0.78	1.75	0.76	-0.13
9	Leasing indicates a source of financial weakness	1.62	0.77	1.61	0.79	1.68	0.78	-0.07

[1]Operating lease use=total operating lease rental in P&L/total sales
Low=0 to 0.0089, Medium=0.0090 to 0.0238, High=0.0243 to 0.6486
* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 9: Gearing profiles of respondents adopting alternative competitive, management and expansion strategies

Panel A : Total gearing

Total sample	
N	**196**
Mean	0.433
Standard Deviation	0.705
Minimum	0.000
Maximum	6.186

Competitive strategy	**Low cost**	**Product differentiation**	**Unique product**	**Test stat[1]**	**p**
N	15	138	24		
Mean	1.108	0.376	0.346	7.724	0.001
Standard Deviation	1.726	0.522	0.463		
Minimum	0.039	0.000	0.000		
Maximum	6.186	2.545	1.676		

Management strategy	**Centrally**	**Divisionally**	**Test stat[2]**	**p**
N	69	121		
Mean	0.475	0.398	0.723	0.470
Standard Deviation	0.931	0.528		
Minimum	0.000	0.000		
Maximum	6.186	3.579		

Expansion/growth strategy	**No expansion/ integration**	**Diversification**	**Test stat[2]**	**p**
N	35	151		
Mean	0.571	0.390	1.396	0.164
Standard Deviation	0.769	0.674		
Minimum	0.000	0.000		
Maximum	3.58	6.186		

[1] Anova single factor procedure

[2] Two sample t test (two tailed)

Panel B : Long-term gearing

Total sample	
N	**196**
Mean	0.235
Standard Deviation	0.374
Minimum	0.000
Maximum	2.555

Appendix 9 continued:

Competitive strategy	Low cost	Product differentiation	Unique product	Test stat[1]	p
N	15	138	24		
Mean	0.390	0.230	0.145	1.89	0.154
Standard Deviation	0.689	0.362	0.189		
Minimum	0.000	0.000	0.000		
Maximum	2.555	2.241	0.603		

Management strategy	Centrally	Divisionally	Test stat[2]	p
N	69	121		
Mean	0.240	0.223	0.257	0.798
Standard Deviation	0.446	0.329		
Minimum	0.000	0.000		
Maximum	2.241	2.555		

Expansion/growth strategy	No expansion/ integration	Diversification	Test stat[2]	p
N	35	151		
Mean	0.324	0.205	1.756	0.080
Standard Deviation	0.542	0.306		
Minimum	0.000	0.000		
Maximum	2.555	2.241		

[1] Anova single factor procedure

[2] Two sample t test (two tailed)

Panel C : Total gearing excluding outlier

Competitive strategy	Low cost	Product differentiation	Unique product	Test stat[1]	p
N	14	138	24		
Mean	0.745	0.376	0.346	2.785	0.064
Standard Deviation	1.041	0.522	0.463		
Minimum	0.039	0.000	0.000		
Maximum	3.580	2.545	1.676		

Management strategy	Centrally	Divisionally	Test stat[2]	p
N	68	121		
Mean	0.391	0.398	-0.088	0.929
Standard Deviation	0.616	0.528		
Minimum	0.000	0.000		
Maximum	2.545	3.579		

Expansion/growth strategy	No expansion/ integration	Diversification	Test stat[2]	p
N	35	150		
Mean	0.571	0.351	2.149	0.030
Standard Deviation	0.769	0.48		
Minimum	0.000	0.000		
Maximum	3.58	2.545		

[1] Anova single factor procedure

[2] Two sample t test (two tailed)

Appendix 10: Comparison of key questions on the basis of firm size

	Size by total assets (£'000)				Size by sales (£'000)			
Panel A : Summary Statistics	Mean	Stan Dev	Minimum	Maximum	Mean	Stan Dev	Minimum	Maximum
Total sample (n= 198)	871725	2426857	701	17288000	840401	2384831	0	17158000
Small companies (n=66)	10818	7851	701	27612	9280	7753	0	27704
Large compnies (n=66)	2532120	3694340	14227	17288000	2422523	3663177	204810	17158000

	Percentage of respondents[2]				Percentage of respondents[2]			
	Large	Small	Chi-sq	p[1]	Large	Small	Chi-sq	p[1]
Panel B: Target Capital Structure								
	(n=65)	(n=66)			(n=65)	(n=66)		
No target	32	57			34	67		
Flexible target	48	29			48	23		
Reasonably strict target	20	14			18	10		
			8.498	0.014			14.208	0.001
Panel C: Hierarchy of Financial Sources								
	(n=62)	(n=66)			(n= 63)	(n=66)		
YES	66	61			65	61		
NO	34	39			35	39		
			0.420	0.517			0.276	0.599
Panel D: Spare Borrowing Capacity								
	(n=65)	(n=64)			(n=65)	(n=62)		
YES	71	41			71	34		
NO	29	59			29	66		
			11.882	0.001			17.334	0.000

[1]Chi-square test procedure in Minitab

[2]Number of respondents used in Chi-square test

Appendix 10: Comparison of key questions on the basis of firm size continued

Panel E: The relative importance of factors in choosing the appropriate amount of total debt

	Question asked (abbreviated)	Size by total assets					Size by sales				
		Large		Small			Large		Small		
Row		Mean	Stan Dev	Mean	Stan Dev	Diff	Mean	Stan Dev	Mean	Stan Dev	Diff
1	Ensuring long term survivability	4.320	0.958	4.410	0.804	-0.090	4.339	0.936	4.377	0.860	-0.038
2	Projected cash flow / earnings	4.307	0.715	3.968	0.991	0.339	4.318	0.737	4.113	0.851	0.205
3	Tax advantage of interest deductions	3.935	1.099	2.887	1.118	1.048*	3.952	1.113	2.746	1.047	1.206*
4	Ensuring customers /suppliers aren't worried about company survival	3.738	1.015	3.714	0.974	0.024	3.726	0.978	3.619	0.941	0.107
5	Avoiding issue of equity to dilute existing shareholder's claims	3.557	1.025	2.968	1.121	0.589*	3.548	0.986	3.063	1.148	0.485*
6	Restrictive covenants	3.548	1.111	3.419	1.095	0.129	3.619	1.142	3.452	1.035	0.167
7	Volatility of earnings and cash flow	3.548	0.986	3.677	1.083	-0.129	3.556	0.980	3.806	1.069	-0.250
8	Level of interest rates	3.419	0.950	3.365	0.885	0.054	3.429	0.946	3.365	0.921	0.064
9	Potential costs of bankruptcy/financial distress	3.098	1.535	2.968	1.619	0.130	3.032	1.525	3.177	1.574	-0.145
10	Level of other non-taxable deductions	2.984	1.048	2.857	1.030	0.127	2.968	1.077	2.937	0.982	0.031
11	Preventing company becoming a take-over target	2.836	1.186	2.419	1.195	0.417*	2.726	1.203	2.403	1.152	0.323
12	Committing cash flow to interest payments as a disciplinary control on management	2.400	1.012	2.283	1.027	0.117	2.350	1.005	2.467	1.049	-0.117
13	Personal tax cost facing investors	2.148	0.928	1.902	0.851	0.246	2.145	0.956	2.016	0.904	0.129

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 11: Comparison of key questions on the basis of industry classification

	Basic Industries	Cyclical Consumer Goods	Cyclical Services	General Industries	Information Technology	Non-Cyc Consumer Goods	Non-Cyclical Services	Resources	Utilities
Panel A : Percentage of companies in each industry	(n=19) 9.60%	(n=15) 7.58%	(n=72) 36.36%	(n=18) 9.09%	(n=18) 9.09%	(n=32) 16.16%	(n=6) 3.03%	(n=13) 6.57%	(n=5) 2.53%
Panel B: Target Capital Structure	Percentage of respondents[2]								
	(n=19)	(n=15)	(n=71)	(n=18)	(n=18)	(n=32)		(n=23)	
No target	48	47	52	44	56	34		57	
Flexible target	26	47	35	44	28	50		30	
Reasonably strict target	26	6	13	12	16	16		13	
Chi-square = 8.415									
$p^1 = 0.752$									
Panel C: Hierarchy of Financial Sources									
	(n=19)	(n=14)	(n=68)	(n=17)	(n=16)	(n=32)		(n=24)	
YES	63	50	68	59	63	53		50	
NO	37	50	32	41	37	47		50	
Chi-square = 4.001									
$p^1 = 0.677$									
Panel D: Spare Borrowing Capacity									
	(n=19)	(n=15)	(n=70)	(n=18)	(n=18)	(n=31)		(n=22)	
YES	63	80	54	72	78	39		59	
NO	37	20	46	28	22	61		41	
Chi-square = 12.720									
$p^1 = 0.048$									

[1]Chi-square test procedure in Minitab

[2]Number of respondents used in Chi-square test

Appendix 11: Comparison of key questions on the basis of industry classification continued

Panel E: The relative importance of factors in choosing the appropriate amount of total debt

Row	Question asked (abbreviated)		Basic Industries	Cyclical Consumer Goods	Cyclical Services	General Industries	Information Technology	Non-Cyc Consumer Goods	Non-Cyclical Services	Resources	Utilities	Kruskal - Wallis Test
1	Ensuring long term survivability	Mean	4.289	4.467	4.449	4.389	4.533	4.296	4.833	4.273	4.100	H = 6.21
		St Dev	0.871	0.640	0.883	1.037	1.060	0.912	0.408	1.009	0.224	p = 0.515
2	Projected cash flow / earnings	Mean	4.263	3.733	4.429	4.111	3.533	4.069	4.500	4.455	4.600	H = 18.72***
		St Dev	0.872	0.961	0.672	0.583	1.187	0.998	0.548	0.522	0.548	p = 0.009
3	Tax advantage of interest deductions	Mean	3.421	3.733	3.353	3.111	3.000	3.345	3.500	2.909	4.200	H = 4.01
		St Dev	1.305	0.961	1.103	1.023	0.966	1.495	1.378	1.300	0.837	p = 0.778
4	Ensuring customers /suppliers aren't worried about company survival	Mean	3.105	3.400	3.739	3.778	4.062	3.500	3.833	3.364	3.400	H = 12.71*
		St Dev	1.049	1.056	1.120	1.003	0.680	1.072	0.753	0.924	0.548	p = 0.080
5	Avoiding issue of equity to dilute existing shareholder's claims	Mean	3.368	3.133	3.300	3.667	2.625	3.357	3.167	2.727	3.400	H = 11.53
		St Dev	1.212	1.060	1.040	1.085	0.619	1.254	0.753	1.191	1.140	p = 0.117
6	Restrictive covenants	Mean	3.632	3.643	3.729	3.556	3.267	3.414	2.833	3.545	4.000	H = 7.47
		St Dev	1.165	1.151	1.141	0.856	1.223	1.086	0.753	0.688	1.414	p = 0.381
7	Volatility of earnings and cash flow	Mean	3.737	3.667	3.700	3.611	4.200	3.414	3.833	4.273	3.400	H = 6.66
		St Dev	0.933	0.816	1.068	0.916	0.775	1.296	0.983	0.786	0.548	p = 0.465
8	Level of interest rates	Mean	3.368	3.533	3.729	3.556	3.437	3.207	4.000	3.182	3.400	H = 9.01
		St Dev	0.955	0.915	0.883	0.705	1.031	1.048	0.894	0.751	0.548	p = 0.252
9	Potential costs of bankruptcy/financial distress	Mean	3.263	3.200	2.912	2.824	3.000	2.552	3.000	3.900	2.200	H = 3.81
		St Dev	1.593	1.568	1.600	1.741	1.633	1.572	1.673	1.197	0.837	p = 0.801
10	Level of other non-taxable deductions	Mean	3.105	3.143	3.000	2.778	2.688	2.724	2.500	2.909	3.600	H = 5.46
		St Dev	0.875	0.949	1.098	0.943	0.873	1.099	1.049	1.044	0.894	p = 0.604
11	Preventing company becoming a take-over target	Mean	2.722	2.267	2.643	2.944	1.933	2.379	3.333	1.909	2.800	H = 11.98
		St Dev	1.179	0.884	1.252	1.349	0.884	1.208	0.816	0.831	0.447	p = 0.101
12	Committing cash flow to interest payments as a disciplinary control on management	Mean	2.667	2.429	2.530	2.556	2.333	2.286	2.000	2.364	2.800	H = 4.64
		St Dev	1.029	1.158	1.011	0.984	1.234	1.084	0.632	0.924	0.837	p = 0.704
13	Personal tax cost facing investors	Mean	2.421	1.933	1.884	2.167	1.867	2.071	1.833	2.200	2.200	H = 5.72
		St Dev	1.121	0.799	0.867	0.857	0.743	1.152	0.753	0.919	1.095	p = 0.572

*** significant at 1% confidence level

** significant at 5 % confidence level

* significant at 10 % confidence level

Appendix 12: Comparison of key questions on the basis of gearing

	Total Gearing[1]				Long-Term Gearing[2]			
Panel A : Summary Statistics	Mean	Stan Dev	Minimum	Maximum	Mean	Stan Dev	Minimum	Maximum
Total sample (n= 196)	0.433	0.705	0.000	6.186	0.235	0.374	0.000	2.555
High gearing compnies (n=65)	1.065	0.918	0.408	6.186	0.601	0.467	0.239	2.554
Low gearing companies (n=66)	0.026	0.025	0.000	0.077	0.005	0.007	0.000	0.022

	Percentage of respondents[4]				Percentage of respondents[4]			
	High	Low	Chi-sq	p3	High	Low	Chi-sq	p3
Panel B: Target Capital Structure								
	(n=65)	(n=66)			(n=64)	(n=66)		
No target	34	55			36	59		
Flexible target	51	30			48	26		
Reasonably strict target	15	15			16	15		
			6.561	0.038			8.184	0.017
Panel C: Hierarchy of Financial Sources								
	(n=60)	(n=64)			(n=60)	(n=63)		
YES	68	52			65	52		
NO	32	48			35	48		
			3.620	0.057			2.016	0.156
Panel D: Spare Borrowing Capacity								
	(n=65)	(n=63)			(n=63)	(n=64)		
YES	65	49			68	52		
NO	35	51			32	48		
			3.100	0.078			3.681	0.055

[1]Total Gearing=(total loan capital (321) + borrowings repayable in less than one year (309)) / Market value of equity (HMV)

[2]Long-Term Gearing = total loan capital (321) / Market value of equity (HMV)

[3]Chi-square test procedure in Minitab [4]Number of respondents used in Chi-square test

Appendix 12: Comparison of key questions on the basis of gearing continued

Panel E: The relative importance of factors in choosing the appropriate amount of total debt

	Question asked (abbreviated)	Total Gearing[1]					Long-Term Gearing[2]				
		High		Low			High		Low		
Row		Mean	Stan Dev	Mean	Stan Dev	Diff	Mean	Stan Dev	Mean	Stan Dev	Diff
1	Ensuring long term survivability	4.449	0.813	4.451	0.956	-0.002	4.358	0.879	4.575	0.786	-0.217
2	Projected cash flow / earnings	4.426	0.694	3.935	1.038	0.491*	4.377	0.711	4.000	1.033	0.377*
3	Tax advantage of interest deductions	3.367	1.340	3.113	1.175	0.254	3.400	1.291	3.033	1.154	0.367
4	Ensuring customers /suppliers aren't worried about company survival	3.458	1.056	3.794	0.936	-0.336	3.450	1.111	3.855	0.973	-0.405
5	Avoiding issue of equity to dilute existing shareholder's claims	3.333	1.068	3.000	1.092	0.333	3.344	1.031	3.065	1.129	0.279
6	Restrictive covenants	3.721	1.127	3.295	1.160	0.426*	3.738	1.031	3.250	1.216	0.488*
7	Volatility of earnings and cash flow	3.672	1.060	3.661	1.055	0.011	3.754	1.075	3.770	1.101	-0.016
8	Level of interest rates	3.443	0.922	3.413	0.978	0.030	3.426	0.957	3.403	1.032	0.023
9	Potential costs of bankruptcy/financial distress	3.083	1.544	2.984	1.563	0.099	2.950	1.545	3.180	1.618	-0.230
10	Level of other non-taxable deductions	3.217	1.180	2.726	0.890	0.491*	3.200	1.176	2.705	0.937	0.495*
11	Preventing company becoming a take-over target	2.717	1.136	2.306	1.049	0.411	2.633	1.119	2.328	1.193	0.305
12	Committing cash flow to interest payments as a disciplinary control on management	2.627	1.065	2.293	0.899	0.334	2.667	1.068	2.368	1.063	0.299
13	Personal tax cost facing investors	1.966	0.917	2.065	0.866	-0.099	1.966	0.982	2.033	0.875	-0.067

[1]Total Gearing=(total loan capital (321) + borrowings repayable in less than one year (309)) / Market value of equity (HMV)

[2]Long-Term Gearing = total loan capital (321) / Market value of equity (HMV)

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 13: Comparison of key questions on the basis of competitive strategy

	Low Product Cost	Product Differentiation	Unique Product		
Panel A : Percentage of companies adopting each strategy	(n=15) 8%	(n=139) 78%	(n=25) 14%		
Panel B: Target Capital Structure					
		Percentage of respondents[2]		Chi-sq	p[1]
	(n=15)	(n=137)	(n=25)		
No target	60	45	68		
Flexible target	33	40	12		
Reasonably strict target	7	15	20		
				8.415	0.077
Panel C: Hierarchy of Financial Sources					
	(n=15)	(n=131)	(n=25)		
YES	67	60	52		
NO	33	40	48		
				0.938	0.626
Panel D: Spare Borrowing Capacity					
	(n=15)	(n=131)	(n=25)		
YES	67	64	26		
NO	33	36	74		
				11.97	0.003

[1]Chi-square test procedure in Minitab [2]Number of respondents used in Chi-square test

Appendix 13: Comparison of key questions on the basis of competitive strategy continued

Panel E: The relative importance of factors in choosing the appropriate amount of total debt

Row	Question asked (abbreviated)	Competitive Strategy						Kruskal - Wallis Test	
		Low Cost (n=14)		Product Diff (n=134)		Unique Product (n=23)			
		Mean	Stan Dev	Mean	Stan Dev	Mean	Stan Dev	H	p
1	Ensuring long term survivability	4.54	0.66	4.40	0.92	4.46	0.67	0.15	0.929
2	Projected cash flow / earnings	4.46	0.52	4.18	0.88	4.13	0.82	1.23	0.541
3	Restrictive covenants	4.08	1.19	3.55	1.10	3.35	1.11	4.43	0.109
4	Volatility of earnings and cash flow	3.92	0.95	3.62	1.00	3.83	1.15	1.71	0.425
5	Ensuring customers /suppliers aren't worried about company survival	3.88	0.86	3.61	1.07	3.61	0.94	0.62	0.735
6	Level of interest rates	3.86	0.95	3.57	0.87	2.96	1.02	10.39***	0.006
7	Avoiding issue of equity to dilute existing shareholder's claims	3.43	1.02	3.26	1.06	3.26	1.25	0.45	0.799
8	Potential costs of bankruptcy/financial distress	3.36	1.50	3.30	1.59	3.30	1.46	3.40	0.183
9	Preventing company becoming a take-over target	3.31	1.44	2.04	1.15	2.04	0.82	8.38**	0.015
10	Tax advantage of interest deductions	3.14	1.03	3.41	1.14	2.65	1.37	7.46**	0.024
11	Level of other non-taxable deductions	3.14	1.10	2.52	1.01	2.52	1.08	4.05	0.132
12	Committing cash flow to interest payments as a disciplinary control on management	3.08	1.32	2.59	1.02	2.59	0.96	4.51	0.105
13	Personal tax cost facing investors	1.79	0.43	2.04	0.90	1.77	0.87	2.25	0.325

*** significant at 1% confidence level

** significant at 5 % confidence level

* significant at 10 % confidence level

Appendix 14: Comparison of key questions on the basis of management strategy

	Managed Centrally	Managed by Divisions		
Panel A : Percentage of companies adopting each strategy	(n=71) 38%	(n=116) 62%		
Panel B: Target Capital Structure	Percentage of respondents[2]		Chi-sq	p[1]
	(n=68)	(n=116)		
No target	56	46		
Flexible target	30	42		
Reasonably strict target	14	12		
			2.590	0.274
Panel C: Hierarchy of Financial Sources				
	(n=68)	(n=116)		
YES	57	60		
NO	43	40		
			0.159	0.690
Panel D: Spare Borrowing Capacity				
	(n=68)	(n=116)		
YES	49	65		
NO	51	35		
			4.730	0.030

[1]Chi-square test procedure in Minitab [2]Number of respondents used in Chi-square test

Appendix 14: Comparison of key questions on the basis of management strategy continued

Panel E: The relative importance of factors in choosing the appropriate amount of total debt

Row	Question asked (abbreviated)	Managed Centrally (n=67)		Managed by Divisions (n=117)		
		Mean	Stan Dev	Mean	Stan Dev	Diff
1	Ensuring long term survivability	4.43	0.98	4.39	0.96	0.04
2	Projected cash flow / earnings	4.27	0.86	4.16	0.84	0.11
3	Volatility of earnings and cash flow	3.75	1.12	3.69	0.96	0.06
4	Ensuring customers /suppliers aren't worried about company survival	3.59	1.01	3.62	1.07	-0.03
5	Restrictive covenants	3.37	1.17	3.67	1.04	-0.30
6	Level of interest rates	3.51	0.98	3.50	0.88	0.01
7	Tax advantage of interest deductions	3.06	1.19	3.50	1.15	-0.44*
8	Avoiding issue of equity to dilute existing shareholder's claims	3.16	1.19	3.27	1.02	-0.11
9	Potential costs of bankruptcy/financial distress	3.06	1.57	2.84	1.59	0.22
10	Level of other non-taxable deductions	3.06	1.04	2.82	1.00	0.24
11	Preventing company becoming a take-over target	2.42	1.09	2.57	1.18	-0.15
12	Committing cash flow to interest payments as a disciplinary control on management	2.53	1.02	2.40	1.00	0.13
13	Personal tax cost facing investors	1.91	0.91	2.10	0.93	-0.19

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 15: Comparison of key questions on the basis of expansion strategy

Panel A : Percentage of companies adopting each strategy	**No Expansion / Integration** (n=36) 19%	**Diversification** (n=151) 81%		
Panel B: Target Capital Structure	Percentage of respondents[2]		Chi-sq	p[1]
	(n=36)	(n=150)		
No target	56	48		
Flexible target	36	37		
Reasonably strict target	8	15		
			1.21	0.545
Panel C: Hierarchy of Financial Sources				
	(n=34)	(n=147)		
YES	62	60		
NO	38	40		
			0.042	0.838
Panel D: Spare Borrowing Capacity				
	(n=36)	(n=150)		
YES	61	57		
NO	39	43		
			0.170	0.680

[1]Chi-square test procedure in Minitab [2]Number of respondents used in Chi-square test

Appendix 15: Comparison of key questions on the basis of expansion strategy continued

Panel E: The relative importance of factors in choosing the appropriate amount of total debt

Row	Question asked (abbreviated)	No Expansion / Integration (n=33)		Diversification (n=149)		
		Mean	Stan Dev	Mean	Stan Dev	Diff
1	Ensuring long term survivability	4.59	0.62	4.34	0.93	0.25
2	Projected cash flow / earnings	4.30	0.73	4.18	0.88	0.12
3	Volatility of earnings and cash flow	3.61	1.06	3.73	1.03	-0.12
4	Ensuring customers /suppliers aren't worried about company survival	3.61	1.06	3.63	1.03	-0.02
5	Restrictive covenants	3.73	0.91	3.55	1.14	0.18
6	Level of interest rates	3.39	0.83	3.52	0.92	-0.13
7	Tax advantage of interest deductions	2.97	1.24	3.40	1.16	-0.43
8	Avoiding issue of equity to dilute existing shareholder's claims	3.33	1.11	3.20	1.09	0.13
9	Potential costs of bankruptcy/financial distress	3.39	1.46	2.77	1.58	0.62
10	Level of other non-taxable deductions	3.03	0.90	2.89	1.05	0.14
11	Preventing company becoming a take-over target	2.41	1.10	2.54	1.17	-0.13
12	Committing cash flow to interest payments as a disciplinary control on management	2.63	0.79	2.42	1.08	0.21
13	Personal tax cost facing investors	2.06	0.88	2.02	0.96	0.04

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 16

An analysis of respondents currently leasing land and buildings and entering agreements with rentals which vary in line with prices

	Never	Seldom	Sometimes	Usually	Always	Total (n=90)
Finance Leases	9	1	1	2	0	13
Operating Leases	24	6	12	29	7	78
Both	1	0	2	5	1	9
Total	34	7	15	36	8	100

An analysis of respondents currently leasing land and buildings and entering agreements with rentals contingent on revenue/profits

	Never	Seldom	Sometimes	Usually	Always	Total (n=90)
Finance Leases	11	0	2	0	0	13
Operating Leases	63	8	7	0	0	78
Both	6	1	2	0	0	9
Total	80	9	11	0	0	100

An analysis of respondents currently leasing land and buildings and entering agreements with rentals contingent on usage

	Never	Seldom	Sometimes	Usually	Always	Total (n=90)
Finance Leases	11	0	1	0	0	12
Operating Leases	68	8	0	1	0	77
Both	9	0	1	0	1	11
Total	88	8	2	1	1	100

Appendix 17

An analysis of respondents currently leasing plant and machinery and entering agreements with rentals contingent on usage

	Never	Seldom	Sometimes	Usually	Always	Total (n=84)
Finance Leases	35	2	6	2	0	45
Operating Leases	14	2	11	2	0	29
Both	14	4	2	4	1	25
Total	63	8	19	8	1	99

An analysis of respondents currently leasing office equipment and entering agreements with rentals contingent on usage

	Never	Seldom	Sometimes	Usually	Always	Total (n=66)
Finance Leases	17	1	5	0	0	23
Operating Leases	33	6	12	6	1	58
Both	14	0	0	5	0	19
Total	64	7	17	11	1	100

An analysis of respondents currently leasing computer equipment and entering agreements with rentals contingent on usage

	Never	Seldom	Sometimes	Usually	Always	Total (n=71)
Finance Leases	24	4	7	3	0	38
Operating Leases	28	1	9	3	0	41
Both	14	1	0	3	1	19
Total	66	6	16	9	1	98

An analysis of respondents currently leasing vehicles and entering agreements with rentals contingent on usage

	Never	Seldom	Sometimes	Usually	Always	Total (n=103)
Finance Leases	12	1	3	0	0	16
Operating Leases	41	4	15	7	2	69
Both	11	1	2	3	0	17
Total	64	6	20	10	2	102

Appendix 17 continued

An analysis of respondents currently leasing plant and machinery and entering agreements with rentals which vary in line with prices

	Never	Seldom	Sometimes	Usually	Always	Total (n=82)
Finance Leases	38	4	2	0	1	45
Operating Leases	18	4	5	2	0	29
Both	20	2	2	1	0	25
Total	76	10	9	3	1	99

An analysis of respondents currently leasing office equipment and entering agreements with rentals which vary in line with prices

	Never	Seldom	Sometimes	Usually	Always	Total (n=65)
Finance Leases	18	2	0	2	0	22
Operating Leases	38	7	10	2	2	59
Both	15	2	0	2	0	19
Total	71	11	10	6	2	100

An analysis of respondents currently leasing computer equipment and entering agreements with rentals which vary in line with prices

	Never	Seldom	Sometimes	Usually	Always	Total (n=89)
Finance Leases	22	4	0	1	1	28
Operating Leases	25	28	1	0	1	55
Both	15	0	0	1	0	16
Total	62	32	1	2	2	99

An analysis of respondents currently leasing vehicles and entering agreements with rentals which vary in line with prices

	Never	Seldom	Sometimes	Usually	Always	Total (n=101)
Finance Leases	14	2	0	0	0	16
Operating Leases	48	7	8	3	1	67
Both	16	0	0	1	0	17
Total	78	9	8	4	1	100

Appendix 18: The use of leasing by firms exhibiting different characteristics

Panel A: Comparison on the basis of size

	Size by assets				Size by sales			
	% of respondents[2]				% of respondents[2]			
	Large	Small	Chi-sq	p[1]	Large	Small	Chi-sq	p[1]
Does company use, has it used, or would it consider using leasing?	(n=66)	(n=65)			(n=65)	(n=65)		
YES	83	83			85	80		
NO	17	17			15	20		
			0.002	0.969			0.475	0.491

Panel B: Comparison on the basis of industry

	Basic Industries	Cyclical Services	General Industries	Information Technology	Non-Cyc Consumer Goods	Non- Cyclical Services, Resources, Utilities & Cyc Consumer Goods	Chi-sq	p[1]
Does company use, has it used, or would it consider using leasing?	(n=18)	(n=72)	(n=18)	(n=18)	(n=18)	(n=38)		
YES	78	90	88	94	78	71		
NO	22	10	11	6	22	29		
							9.796	0.081

Panel C: Comparison on the basis of gearing

	Total gearing				Long-term gearing			
	% of respondents[2]				% of respondents[2]			
	High	Low	Chi-sq	p[1]	High	Low	Chi-sq	p[1]
Does company use, has it used, or would it consider using leasing?	(n=66)	(n=63)			(n=66)	(n=63)		
YES	86	78			85	78		
NO	14	22			15	22		
			1.622	0.203			1.064	0.302

1Chi-square test procedure in Minitab

2 Number of respondents used in Chi-Square test

Appendix 19: Comparison of relative importance of factors in leasing decision on the basis of firm size

Panel A: The relative importance of factors in the decision to lease land and buildings

Row	Question asked (abbreviated)	Size by total assets					Size by sales				
		Large		Small			Large		Small		
		Mean	Sdev	Mean	Sdev	Diff	Mean	Sdev	Mean	Sdev	Diff
1	Expanding overall debt-type capacity	2.30	1.17	2.23	1.00	0.06	2.18	1.17	2.37	1.02	-0.18
2	Avoiding large capital outlay	3.21	1.04	4.06	1.06	-0.85*	3.32	1.14	4.09	1.07	-0.77*
3	Positive outcome to quantitative analysis	3.33	1.13	2.62	1.18	0.72*	3.35	1.12	2.79	1.26	0.56*
4	Rate of interest implicit in lease compared to cost of borrowing to purchase	3.67	1.06	3.09	0.97	0.59*	3.57	1.04	3.20	1.01	0.37
5	Leasing is easier to arrange from an administrative point of view	2.02	1.02	2.31	1.10	-0.29	1.88	0.91	2.35	1.10	-0.46*
6	Leasing has the ability to offer a complete package	2.52	1.15	2.59	1.20	-0.06	2.54	1.10	2.73	1.21	-0.19
7	Leasing permits the total financing of an asset (apart from advance rental deposit)	2.26	1.03	2.96	1.21	-0.70*	2.39	1.13	3.16	1.18	-0.77*
8	Leasing can be arranged so rental payments increase over agreement, or final payment is a balloon rental, enabling low rentals to be charged early on	1.93	0.83	1.91	0.92	0.02	1.91	0.96	2.14	1.09	-0.23
9	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	3.02	1.15	3.02	1.22	0.00	3.04	1.17	3.11	1.28	-0.07
10	Lease covenants are generally less restrictive than debt covenants	2.44	1.18	2.65	1.13	-0.21	2.41	1.17	2.83	1.14	-0.42
11	Leasing has minimal impact on measures used in current debt covenants	2.19	1.07	2.44	1.14	-0.25	2.17	1.06	2.51	1.14	-0.35
12	Operating leases not accounted for on the balance sheet and have no impact on accounting ratios	2.62	1.29	2.57	1.33	0.05	2.48	1.31	2.59	1.30	-0.12
13	Operating lease expenditure avoids capital expenditure controls	1.42	0.77	1.67	0.87	-0.26	1.34	0.66	1.68	0.88	-0.34*
14	Conservation of cash flow	2.93	1.07	3.81	0.97	-0.88*	2.98	1.11	3.84	1.02	-0.87*
15	Lease rentals are tax deductible but capital allowances are not available on assets purchased	2.73	1.21	3.17	1.08	-0.44	2.78	1.22	3.09	1.07	-0.31
16	Leasing can reduce/eliminate the risk of significant cost of transferring ownership	2.27	1.10	2.42	0.99	-0.15	2.14	1.07	2.37	1.02	-0.23
17	Higher disposal value of leased property	2.20	1.10	2.09	0.94	0.10	2.14	1.12	2.12	0.97	0.02
18	Contingent lease rentals can reduce company exposure to economic or business downturns	2.00	0.99	2.10	1.15	-0.10	1.93	1.00	2.26	1.14	-0.33
19	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	2.37	1.16	2.09	1.00	0.27	2.27	1.10	2.21	0.98	0.05
20	Legal consequences of default are less severe for leasing	1.85	0.88	2.19	1.03	-0.34	1.80	0.88	2.29	1.10	-0.49*
21	Leasing can be obtained on any scale	2.46	1.15	3.00	1.19	-0.55*	2.48	1.21	3.05	1.16	-0.57*
22	Leasing is conveniently offered at asset point of sale	2.12	1.09	2.26	1.29	-0.14	2.02	1.06	2.39	1.30	-0.36

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 19 continued:

Panel B: The relative importance of factors in the decision to lease other assets

Row	Question asked (abbreviated)	Size by total assets					Size by sales				
		Large		Small			Large		Small		
		Mean	Sdev	Mean	Sdev	Diff	Mean	Sdev	Mean	Sdev	Diff
1	Expanding overall debt-type capacity	2.34	1.19	2.32	1.09	0.02	2.20	1.13	2.40	1.09	-0.20
2	Avoiding large capital outlay	3.02	1.15	3.70	0.95	-0.68*	3.08	1.21	3.70	0.99	-0.62*
3	Positive outcome to quantitative analysis	3.29	1.19	2.79	1.26	0.50	3.35	1.22	2.90	1.32	0.45
4	Rate of interest implicit in lease compared to cost of borrowing to purchase	3.80	0.93	3.35	0.95	0.45*	3.84	0.91	3.38	0.92	0.46*
5	Leasing is easier to arrange from an administrative point of view	2.15	1.20	2.75	1.05	-0.60*	2.04	1.12	2.77	1.08	-0.73*
6	Leasing has the ability to offer a complete package	2.89	1.15	3.06	1.15	-0.17	2.96	1.08	3.20	1.15	-0.24
7	Leasing permits the total financing of an asset (apart from advance rental deposit)	2.49	1.06	3.24	1.09	-0.75*	2.62	1.15	3.36	1.05	-0.75*
8	Leasing can be arranged so rental payments increase over agreement, or final payment is a balloon rental, enabling low rentals to be charged early on	1.98	0.90	2.26	1.15	-0.28	1.96	0.98	2.36	1.24	-0.41
9	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	2.34	1.24	2.10	0.93	0.24	2.36	1.28	2.20	1.01	0.16
10	Lease covenants are generally less restrictive than debt covenants	2.33	1.19	2.60	1.14	-0.27	2.33	1.21	2.74	1.18	-0.41
11	Leasing has minimal impact on measures used in current debt covenants	2.19	1.14	2.45	1.04	-0.26	2.22	1.13	2.51	1.01	-0.30
12	Operating leases not accounted for on the balance sheet and have no impact on accounting ratios	2.70	1.27	2.58	1.23	0.12	2.61	1.29	2.65	1.22	-0.04
13	Operating lease expenditure avoids capital expenditure controls	1.42	0.75	1.76	0.97	-0.33	1.36	0.65	1.80	0.99	-0.44*
14	Conservation of cash flow	2.87	0.99	3.89	0.76	-1.01*	2.92	1.04	3.87	0.80	-0.96*
15	Lease rentals are tax deductible but capital allowances are not available on assets purchased	2.70	1.23	2.90	1.10	-0.20	2.78	1.22	2.86	1.11	-0.09
16	Leasing can reduce/eliminate the risk of significant cost of transferring ownership	2.37	1.14	2.69	0.92	-0.32	2.22	1.11	2.71	0.99	-0.49*
17	Higher disposal value of leased property	2.22	1.09	2.37	0.93	-0.15	2.20	1.11	2.35	0.95	-0.15
18	Contingent lease rentals can reduce company exposure to economic or business downturns	1.91	0.84	2.09	1.10	-0.18	1.86	0.84	2.22	1.08	-0.36
19	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	2.64	1.14	2.28	1.02	0.36	2.58	1.10	2.34	1.01	0.24
20	Legal consequences of default are less severe for leasing	1.88	0.82	2.22	1.03	-0.33	1.88	0.85	2.38	1.10	-0.50*
21	Leasing can be obtained on any scale	2.73	1.16	3.41	1.02	-0.68*	2.79	1.18	3.40	1.01	-0.61*
22	Leasing is conveniently offered at asset point of sale	2.28	1.24	2.76	1.23	-0.47	2.27	1.25	2.80	1.22	-0.53*
23	Transfer of capital allowances reflected in lower rentals	3.17	1.03	3.04	0.98	0.13	3.16	1.09	3.07	0.99	0.10
24	Time apportionment of finance lease expenditure qualifying for capital allowances in first year	2.55	1.13	2.45	0.93	0.10	2.59	1.18	2.47	0.88	0.12
25	WDA restricted to 6% for qualifying expenditure on long-life assets	2.27	0.90	2.26	1.00	0.01	2.21	0.91	2.38	1.01	-0.17

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 19 continued:

Panel C: The relative importance of factors in the decision *not* to lease land and buildings

Row	Question asked (abbreviated)	Size by total assets					Size by sales				
		Large		Small		Diff	Large		Small		Diff
		Mean	Sdev	Mean	Sdev		Mean	Sdev	Mean	Sdev	
1	Leasing is more expensive than other sources of finance	3.80	1.07	2.87	1.19	0.94*	3.83	1.12	2.90	1.27	0.93*
2	Company preference for legal ownership	3.26	1.32	2.59	1.41	0.67*	3.19	1.36	2.50	1.37	0.69*
3	Some key company executives are opposed to leasing	2.00	1.12	1.35	0.56	0.65*	1.94	1.10	1.42	0.64	0.52*
4	Leasing indicates a source of financial weakness	1.52	0.64	1.60	0.86	-0.08	1.49	0.61	1.60	0.80	-0.11
5	Leasing does not provide 100% finance due to the requirement of advance rentals	1.66	0.69	1.67	0.86	-0.01	1.63	0.67	1.74	0.85	-0.11
6	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at lessor's discretion	2.98	1.29	2.60	1.20	0.38	2.92	1.32	2.67	1.10	0.25
7	Loss of grants/taxation allowances if an asset is leased	2.63	1.04	2.06	0.95	0.57*	2.65	1.10	2.06	0.96	0.59*
8	Assets acquired under lease agreements can be repossessed if company defaults	1.71	0.82	2.02	1.05	-0.31	1.60	0.68	2.08	1.04	-0.47*
9	Company assets are highly specialised or company specific, making it expensive for a lessor to bear the risk of obsolescence and the costs of purchase and	2.26	1.14	1.88	1.14	0.38*	2.28	1.14	1.98	1.22	0.30

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 19 continued:

Panel D: The relative importance of factors in the decision *not* to lease other assets

Row	Question asked (abbreviated)	Size by total assets					Size by sales				
		Large		Small			Large		Small		
		Mean	Sdev	Mean	Sdev	Diff	Mean	Sdev	Mean	Sdev	Diff
1	Leasing is more expensive than other sources of finance	3.91	1.06	3.39	1.09	0.52*	3.90	1.15	3.62	0.99	0.29
2	Company preference for legal ownership	2.86	1.25	2.52	1.33	0.34	2.84	1.29	2.60	1.36	0.24
3	Some key company executives are opposed to leasing	1.93	1.18	1.43	0.69	0.49*	1.93	1.16	1.65	0.93	0.28
4	Leasing indicates a source of financial weakness	1.51	0.72	1.61	0.83	-0.10	1.50	0.69	1.71	0.85	-0.21
5	Leasing does not provide 100% finance due to the requirement of advance rentals	1.54	0.61	1.72	0.77	-0.18	1.55	0.61	1.82	0.75	-0.27
6	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at	2.74	1.15	2.44	1.08	0.30	2.68	1.21	2.60	1.09	0.08
7	Loss of grants/taxation allowances if an asset is leased	2.68	1.11	2.30	1.03	0.38	2.65	1.12	2.29	0.99	0.36
8	Assets acquired under lease agreements can be repossessed if company defaults	1.72	0.84	2.02	0.97	-0.30	1.63	0.71	2.17	0.98	-0.54*
9	Company assets are highly specialised or company specific, making it expensive for a lessor to bear the risk of obsolescence and the costs of purchase and disposal	*2.47*	*1.29*	*2.00*	*1.24*	*0.47**	*2.55*	*1.28*	*2.18*	*1.29*	*0.37*

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 20: Comparison of relative importance of factors in leasing decision on the basis of industry

Panel A: The relative importance of factors in the decision to lease land and buildings

Row	Question asked (abbreviated)		BI	CCG	CS	GI	IT	NCCG	NCS	R	U	Kruskal - Wallis Test
1	Expanding overall debt-type capacity	Mean St Dev	2.40 1.27	2.00 1.23	2.39 1.10	2.43 1.16	2.47 1.19	2.38 1.02	2.00 1.27	2.80 1.64	3.50 0.71	H = 3.36 p=0.850
2	Avoiding large capital outlay	Mean St Dev	2.73 1.27	3.50 1.23	3.84 1.16	3.80 0.86	3.81 0.54	3.91 0.97	2.20 0.84	3.60 1.67	4.00 1.00	H = 17.98 p=0.012**
3	Positive outcome to quantitative analysis	Mean St Dev	3.55 1.04	2.60 1.52	2.96 1.23	3.21 1.05	3.00 1.13	3.23 1.31	3.60 1.52	3.40 1.34	4.00 0.00	H = 7.41 p=0.388
4	Rate of interest implicit in lease compared to cost of borrowing to purchase	Mean St Dev	4.09 0.70	3.80 1.30	3.09 1.01	3.40 0.99	3.13 1.13	3.68 0.89	4.00 1.73	3.80 1.10	4.33 0.58	H = 18.68 p=0.009***
5	Leasing is easier to arrange from an administrative point of view	Mean St Dev	2.09 0.94	2.00 0.82	2.25 1.06	2.29 1.07	2.56 1.26	2.05 0.90	1.50 0.84	1.80 0.45	2.00 0.00	H = 5.67 P=0.579
6	Leasing has the ability to offer a complete package	Mean St Dev	2.18 0.98	2.25 0.96	2.58 1.23	3.00 1.18	2.80 1.21	2.46 1.10	1.80 1.10	2.20 1.30	3.00 1.00	H = 6.05 p=0.534
7	Leasing permits the total financing of an asset (apart from advance rental deposit)	Mean St Dev	2.55 0.82	2.60 1.34	2.74 1.29	2.86 1.17	3.14 1.03	2.41 1.18	1.80 1.10	2.60 1.14	3.67 1.16	H = 7.09 p=0.419
8	Leasing can be arranged so rental payments increase over agreement, or final payment is a balloon rental, enabling low rentals to be charged early on	Mean St Dev	2.00 0.78	2.00 1.16	1.87 0.95	2.00 1.04	2.07 0.70	1.82 0.73	1.33 0.52	2.40 1.52	3.67 1.16	H = 8.88 p=0.261
9	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	Mean St Dev	3.36 0.92	2.60 1.14	3.15 1.28	2.60 1.18	3.33 1.05	2.82 1.18	2.83 1.17	3.00 1.00	3.67 1.16	H = 6.65 p=0.467
10	Lease covenants are generally less restrictive than debt covenants	Mean St Dev	2.64 1.03	2.75 1.26	2.52 1.13	2.69 1.03	3.13 1.25	2.38 1.07	2.00 1.27	3.00 0.82	2.50 0.71	H = 6.73 p=0.457
11	Leasing has minimal impact on measures used in current debt covenants	Mean St Dev	2.64 1.36	2.20 0.84	2.43 0.98	2.39 0.87	2.62 1.04	2.05 1.02	1.67 1.21	2.40 1.34	3.00 0.00	H = 8.30 p=0.306
12	Operating leases not accounted for on the balance sheet and have no impact on accounting ratios	Mean St Dev	2.64 1.21	3.17 1.60	2.50 1.21	3.15 1.14	2.64 1.65	2.52 1.17	2.00 0.89	2.00 1.23	2.00 1.41	H = 7.11 p=0.418
13	Operating lease expenditure avoids capital expenditure controls	Mean St Dev	1.30 0.68	1.40 0.55	1.54 0.70	1.69 0.48	1.64 1.01	1.71 1.01	1.33 0.52	1.40 0.55	2.50 2.12	H = 4.39 p=0.734
14	Conservation of cash flow	Mean St Dev	3.46 0.93	3.83 0.75	3.47 1.20	3.54 0.97	3.93 0.70	3.38 1.16	2.83 1.72	3.80 1.64	3.33 1.53	H=3.81 p=0.801
15	Lease rentals are tax deductible but capital allowances are not available on assets purchased	Mean St Dev	3.46 1.04	3.60 1.52	2.85 1.09	2.85 0.99	3.07 1.27	2.86 1.06	1.60 0.89	3.40 1.14	2.00 0.00	H=10.34 p=0.170
16	Leasing can reduce/eliminate the risk of significant cost of transferring ownership	Mean St Dev	2.73 1.27	2.60 1.52	2.26 0.98	2.39 0.77	2.54 1.27	2.05 0.87	2.00 1.10	2.40 1.14	2.00 1.00	H=4.21 p=0.755
17	Higher disposal value of leased property	Mean St Dev	2.50 1.27	2.00 0.71	2.06 0.92	2.08 0.52	2.43 1.02	2.10 0.99	2.00 1.67	2.00 1.23	1.67 1.16	H=4.18 p=0.759
18	Contingent lease rentals can reduce company exposure to economic or business downturns	Mean St Dev	2.40 0.84	2.50 1.73	2.16 1.11	2.00 0.74	1.56 1.01	2.10 0.77	1.20 0.45	2.00 1.41	1.33 0.58	H=10.97 p=0.140
19	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	Mean St Dev	2.50 1.27	2.00 0.00	2.22 1.09	2.50 0.91	2.23 1.01	2.52 1.03	2.20 1.79	2.00 1.16	2.00 1.00	H=3.57 p=0.828
20	Legal consequences of default are less severe for leasing	Mean St Dev	2.40 0.84	2.00 0.00	1.88 0.90	2.33 0.89	2.08 1.12	2.43 1.25	1.50 0.84	2.20 1.64	1.67 1.16	H=8.55 p=0.287
21	Leasing can be obtained on any scale	Mean St Dev	2.82 1.33	2.60 1.34	2.83 1.26	3.08 1.19	3.00 1.20	2.95 1.32	2.00 1.27	2.40 1.14	2.33 1.16	H=4.84 p=0.680
22	Leasing is conveniently offered at asset point of sale	Mean St Dev	2.27 1.19	1.50 0.58	2.20 1.25	2.46 1.05	2.29 1.49	2.29 1.23	1.67 0.82	1.20 0.45	3.00 1.00	H=4.02 p=0.78

BI:Basic Industries, CCG:Cyclical consumer goods, CS:Cyclical services, GI:General Industries; IT: Information technology

NCCG:Non-cyclical consumer goods, NCS: Non-cyclical services, R:Resources, U:Utilities.

***significant at 1%, **significant at 5%, *significant at 10%

Appendix 20 continued:

Panel B: The relative importance of factors in the decision to lease other assets

Row	Question asked (abbreviated)		BI	CCG	CS	GI	IT	NCCG	NCS	R	U	Kruskal - Wallis Test
1	Expanding overall debt-type capacity	Mean	2.30	2.72	2.51	2.27	2.43	2.23	2.00	2.86	2.50	H=3.43
		St Dev	1.16	1.11	1.16	0.96	1.34	0.97	1.27	1.46	0.71	p=0.842
2	Avoiding large capital outlay	Mean	2.91	3.43	3.56	3.31	3.40	3.43	2.33	3.43	3.67	H =8.97
		St Dev	1.14	0.79	1.09	1.25	1.12	1.03	1.21	1.13	1.16	p=0.255
3	Positive outcome to quantitative analysis	Mean	3.36	2.86	3.10	3.27	2.71	3.46	3.17	3.43	3.67	H=6.34
		St Dev	1.29	1.35	1.18	1.03	1.07	1.37	1.84	1.72	0.58	p=0.501
4	Rate of interest implicit in lease compared to cost of borrowing to purchase	Mean	3.82	4.13	3.40	3.63	3.14	3.82	4.50	3.71	3.67	H=8.28
		St Dev	1.17	0.84	0.94	0.72	1.03	0.80	0.84	1.38	0.58	p=0.31
5	Leasing is easier to arrange from an administrative point of view	Mean	2.46	2.33	2.73	2.43	2.47	1.96	2.00	2.57	2.67	H=5.16
		St Dev	1.21	0.82	1.18	1.09	1.30	0.95	1.27	1.13	1.16	p=0.641
6	Leasing has the ability to offer a complete package	Mean	2.73	3.25	3.29	3.33	3.07	2.82	3.33	2.43	3.33	H=5.96
		St Dev	1.35	1.04	1.26	1.18	0.92	1.18	1.37	1.27	1.16	p=0.545
7	Leasing permits the total financing of an asset (apart from advance rental deposit)	Mean	2.91	3.00	3.20	2.80	3.00	2.50	2.83	2.71	4.00	H=7.75
		St Dev	1.14	1.29	1.15	1.15	1.04	1.14	1.60	0.76	1.00	p=0.36
8	Leasing can be arranged so rental payments increase over agreement, or final payment is a balloon rental, enabling low rentals to be charged early on	Mean	2.00	2.43	2.11	2.07	2.50	1.82	1.67	2.14	3.67	H=8.86
		St Dev	0.76	1.13	1.11	1.16	1.02	0.85	0.82	1.07	1.16	p=0.263
9	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	Mean	2.82	2.29	2.25	2.27	2.29	1.82	2.17	2.50	3.67	H=4.23
		St Dev	1.33	0.76	1.27	1.10	1.07	0.85	1.17	1.05	1.16	p=0.752
10	Lease covenants are generally less restrictive than debt covenants	Mean	2.36	3.00	2.32	2.57	2.85	2.38	2.50	2.50	3.00	H=5.27
		St Dev	1.21	1.10	1.19	1.02	1.21	1.12	1.38	1.38	1.41	p=0.627
11	Leasing has minimal impact on measures used in current debt covenants	Mean	2.64	2.14	2.40	2.27	2.42	2.09	2.00	2.50	3.50	H=6.21
		St Dev	1.36	0.69	1.03	0.80	1.00	1.02	1.27	1.05	0.71	p=0.515
12	Operating leases not accounted for on the balance sheet and have no impact on accounting ratios	Mean	2.46	3.13	2.65	3.00	2.77	2.55	1.83	2.43	2.00	H=7.27
		St Dev	1.13	1.25	1.22	1.13	1.64	1.22	0.98	0.98	1.41	p=0.402
13	Operating lease expenditure avoids capital expenditure controls	Mean	1.10	1.71	1.58	1.60	1.77	1.86	1.83	1.60	2.50	H=8.09
		St Dev	0.32	1.11	0.85	0.51	1.01	1.08	1.17	0.55	2.12	p=0.325
14	Conservation of cash flow	Mean	3.18	3.75	3.65	3.53	4.00	3.36	2.83	3.86	3.50	H=6.32
		St Dev	0.87	0.71	0.87	0.92	0.78	1.14	1.72	1.35	2.12	p=0.503
15	Lease rentals are tax deductible but capital allowances are not available on assets purchased	Mean	3.10	3.43	2.60	2.87	3.08	2.91	2.33	3.33	2.00	H=9.91
		St Dev	1.10	1.27	1.13	0.92	1.08	0.97	1.21	1.21	0.00	p=0.194
16	Leasing can reduce/eliminate the risk of significant cost of transferring ownership	Mean	2.46	2.86	2.48	2.80	2.83	2.09	3.00	2.33	2.00	H=3.19
		St Dev	1.21	1.35	1.00	0.86	0.72	0.92	1.41	1.21	1.00	p=0.867
17	Higher disposal value of leased property	Mean	2.6	2.00	2.18	2.31	2.54	2.18	2.67	2.33	1.67	H=7.02
		St Dev	1.27	0.58	0.96	0.63	1.13	0.96	1.63	1.37	1.16	p=0.427
18	Contingent lease rentals can reduce company exposure to economic or business downturns	Mean	2.20	2.33	1.85	2.21	2.00	2.00	1.40	3.20	1.33	H=6.46
		St Dev	0.92	1.37	0.90	0.89	1.07	0.76	0.55	0.84	0.58	p=0.487
19	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	Mean	2.67	2.14	2.43	2.64	2.33	2.36	3.40	3.60	2.00	H=4.64
		St Dev	1.23	0.38	1.12	0.93	0.79	1.09	1.67	0.55	1.00	p=0.704
20	Legal consequences of default are less severe for leasing	Mean	2.10	2.17	1.92	2.29	2.08	2.41	2.00	2.80	1.33	H=3.37
		St Dev	0.88	0.41	0.93	0.83	1.00	1.14	1.27	1.64	0.58	p=0.849
21	Leasing can be obtained on any scale	Mean	3.17	2.57	3.22	3.13	3.14	2.86	2.67	3.50	2.33	H=8.89
		St Dev	0.84	1.13	1.21	1.13	1.10	1.36	1.63	1.05	1.16	p=0.261
22	Leasing is conveniently offered at asset point of sale	Mean	2.46	1.83	2.31	2.87	2.69	2.41	1.50	2.83	3.00	H=8.90
		St Dev	1.44	0.75	1.21	1.06	1.38	1.30	0.55	1.72	1.00	p=0.260
23	Transfer of capital allowances reflected in lower rentals	Mean	3.33	3.43	2.98	3.15	2.92	3.05	2.33	3.6	4.50	H=8.24
		St Dev	0.99	0.98	0.99	0.90	1.17	1.20	1.21	0.89	0.71	p=0.312
24	Time apportionment of finance lease expenditure qualifying for capital allowances in first year	Mean	2.82	2.83	2.35	2.62	2.25	2.58	1.67	2.33	4.50	H=8.90
		St Dev	1.33	1.17	0.95	0.87	1.06	0.90	0.52	0.82	0.71	p=0.260
25	WDA restricted to 6% for qualifying expenditure on long-life assets	Mean	2.70	2.50	2.23	2.46	2.18	2.32	1.67	2.40	2.00	H=5.75
		St Dev	1.16	1.38	0.91	0.66	0.98	0.89	0.52	1.14	1.41	p=0.569

BI:Basic Industries, CCG:Cyclical consumer goods, CS:Cyclical services, GI:General Industries; IT: Information technology
NCCG:Non-cyclical consumer goods, NCS: Non-cyclical services, R:Resources, U:Utilities.
***significant at 1%, **significant at 5%, *significant at 10%

Appendix 20 continued:

Panel C: The relative importance of factors in the decision *not* to lease land and buildings

Row	Question asked (abbreviated)		BI	CCG	CS	GI	IT	NCCG	NCS	R	U	Kruskal - Wallis Test
1	Leasing is more expensive than other sources of finance	Mean St Dev	4.13 0.99	3.50 1.51	3.17 1.34	3.07 1.22	3.50 1.16	3.46 1.07	3.83 1.60	2.29 1.11	4.00 1.00	H=11.15 p=0.132
2	Company preference for legal ownership	Mean St Dev	2.67 1.23	3.82 1.17	2.85 1.35	3.19 1.38	2.36 1.22	3.21 1.37	3.17 1.72	2.67 1.58	4.33 0.58	H=9.57 p=0.214
3	Some key company executives are opposed to leasing	Mean St Dev	1.54 0.66	1.56 0.73	1.82 1.10	1.60 0.91	1.79 1.05	1.63 0.93	2.00 1.27	1.43 0.54	2.00 1.00	H=1.26 p=0.989
4	Leasing indicates a source of financial weakness	Mean St Dev	1.43 0.51	1.50 0.97	1.60 0.75	1.81 0.98	1.57 0.51	1.61 0.74	1.33 0.52	1.50 0.54	1.67 0.58	H=2.47 p=0.929
5	Leasing does not provide 100% finance due to the requirement of advance rentals	Mean St Dev	1.46 0.66	1.70 0.68	1.70 0.78	1.73 0.70	1.43 0.51	1.78 0.80	1.50 0.84	2.00 0.76	2.67 1.53	H=7.23 p=0.405
6	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at lessor's discretion	Mean St Dev	2.46 1.13	3.70 1.34	2.58 1.18	3.13 1.09	2.29 1.14	2.78 1.05	3.83 1.47	3.00 1.12	1.67 0.58	H=16.59 p=0.020**
7	Loss of grants/taxation allowances if an asset is leased	Mean St Dev	3.07 0.96	2.56 1.01	2.21 1.11	2.29 0.83	2.00 1.10	2.32 1.11	1.50 0.84	2.38 0.92	3.00 1.73	H=14.36 p=0.045**
8	Assets acquired under lease agreements can be repossessed if company defaults	Mean St Dev	1.71 0.83	2.40 1.17	1.76 0.90	2.00 1.03	1.75 0.75	1.82 0.88	2.00 1.27	2.13 .99	2.00 0.00	H=5.16 p=0.640
9	Company assets are highly specialised or company specific, making it expensive for a lessor to bear the risk of obsolescence and the costs of purchase and disposal	Mean St Dev	2.39 1.04	1.50 0.53	1.87 1.17	2.67 1.23	1.85 0.99	2.19 1.15	2.67 1.51	2.63 1.60	2.50 0.71	H=13.56 p=0.059*

BI:Basic Industries, CCG:Cyclical consumer goods, CS:Cyclical services, GI:General Industries; IT: Information technology

NCCG:Non-cyclical consumer goods, NCS: Non-cyclical services, R:Resources, U:Utilities.

***significant at 1%, **significant at 5%, *significant at 10%

Appendix 20 continued:

Panel D: The relative importance of factors in the decision *not* to lease other assets

Row	Question asked (abbreviated)		BI	CCG	CS	GI	IT	NCCG	NCS	R	U	Kruskal - Wallis Test
1	Leasing is more expensive than other sources of finance	Mean St Dev	3.81 1.22	4.00 1.04	3.51 1.17	3.53 1.06	3.67 1.05	3.73 0.96	4.33 1.03	4.00 0.82	3.25 1.71	H=5.07 p=0.652
2	Company preference for legal ownership	Mean St Dev	2.38 1.09	3.17 1.27	2.66 1.31	2.81 1.11	2.73 1.22	3.00 1.49	1.83 0.75	3.44 1.24	3.00 1.41	H=9.27 p=0.234
3	Some key company executives are opposed to leasing	Mean St Dev	1.43 0.65	1.64 0.92	1.95 1.18	1.60 0.91	1.80 1.01	1.69 0.97	2.17 1.17	2.14 1.46	1.75 0.96	H=4.26 p=0.749
4	Leasing indicates a source of financial weakness	Mean St Dev	1.33 0.49	1.25 0.45	1.63 0.76	1.81 0.98	1.86 0.86	1.67 0.88	1.50 0.55	1.88 0.84	1.50 0.58	H=6.93 p=0.436
5	Leasing does not provide 100% finance due to the requirement of advance rentals	Mean St Dev	1.46 0.66	1.58 0.67	1.69 0.75	1.87 0.74	1.57 0.51	1.62 0.64	1.67 0.82	2.00 0.76	2.00 1.41	H=4.27 p=0.749
6	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at lessor's discretion	Mean St Dev	2.57 1.22	3.17 1.19	2.38 1.12	2.75 1.00	2.43 1.34	2.63 1.12	3.00 1.41	3.13 0.64	1.50 0.58	H=7.07 p=0.422
7	Loss of grants/taxation allowances if an asset is leased	Mean St Dev	3.00 1.07	2.73 1.19	2.36 1.14	2.50 0.76	1.87 0.83	2.52 1.16	1.83 0.98	2.67 1.00	2.25 1.50	H=11.22 p=0.129
8	Assets acquired under lease agreements can be repossessed if company defaults	Mean St Dev	1.53 0.74	2.17 1.12	1.81 0.93	2.06 0.99	1.80 0.76	1.70 0.72	1.83 0.98	2.75 0.89	1.67 0.58	H=9.88 p=0.195
9	Company assets are highly specialised or company specific, making it expensive for a lessor to bear the risk of obsolescence and the costs of purchase and disposal	Mean St Dev	3.08 1.44	1.83 0.94	1.95 1.11	2.80 1.21	2.29 1.33	2.41 1.28	2.00 1.10	4.22 0.97	2.67 0.58	H=27.31 p=0.000***

BI:Basic Industries, CCG:Cyclical consumer goods, CS:Cyclical services, GI:General Industries; IT: Information technology
NCCG:Non-cyclical consumer goods, NCS: Non-cyclical services, R:Resources, U:Utilities.
***significant at 1%, **significant at 5%, *significant at 10%

Appendix 21: Comparison of relative importance of factors in leasing decision on the basis of level of gearing

Panel A: The relative importance of factors in the decision to lease land and buildings

Row	Question asked (abbreviated)	Total Gearing					Long-Term Gearing				
		High		Low			High		Low		
		Mean	Sdev	Mean	Sdev	Diff	Mean	Sdev	Mean	Sdev	Diff
1	Expanding overall debt-type capacity	2.39	1.15	2.22	0.98	0.18	2.33	1.16	2.23	0.97	0.10
2	Avoiding large capital outlay	3.52	1.24	3.68	1.10	-0.15	3.39	1.24	3.81	1.05	-0.41
3	Positive outcome to quantitative analysis	3.05	1.24	3.11	1.14	-0.07	3.05	1.29	2.92	1.08	0.13
4	Rate of interest implicit in lease compared to cost of borrowing to purchase	3.28	1.09	3.38	1.13	-0.09	3.35	1.10	3.28	1.11	0.07
5	Leasing is easier to arrange from an administrative point of view	2.09	0.85	2.50	1.20	-0.41	2.00	0.85	2.63	1.21	-0.63*
6	Leasing has the ability to offer a complete package	2.40	1.05	2.80	1.13	-0.40	2.30	1.06	2.87	1.14	-0.57*
7	Leasing permits the total financing of an asset (apart from advance rental deposit)	2.40	1.00	2.90	0.94	-0.50*	2.24	1.09	2.92	1.05	-0.68*
8	Leasing can be arranged so rental payments increase over agreement, or final payment is a balloon rental, enabling low rentals to be charged early on	2.05	1.03	1.84	0.59	0.20	2.00	1.06	1.90	0.73	0.11
9	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	3.11	1.16	2.90	1.20	0.21	3.13	1.13	3.08	1.19	0.05
10	Lease covenants are generally less restrictive than debt covenants	2.80	1.07	2.56	1.05	0.24	2.66	1.12	2.67	1.20	-0.01
11	Leasing has minimal impact on measures used in current debt covenants	2.53	1.10	2.03	0.83	0.50*	2.44	1.06	2.30	0.98	0.14
12	Operating leases not accounted for on the balance sheet and have no impact on accounting ratios	2.62	1.30	2.39	1.32	0.23	2.53	1.24	2.33	1.35	0.20
13	Operating lease expenditure avoids capital expenditure controls	1.61	0.87	1.72	0.88	-0.11	1.52	0.73	1.83	1.00	-0.31
14	Conservation of cash flow	3.48	1.15	3.51	1.10	-0.04	3.28	1.15	3.46	1.12	-0.18
15	Lease rentals are tax deductible but capital allowances are not available on assets purchased	2.67	1.12	3.05	1.15	-0.39	2.74	1.15	3.08	1.03	-0.35
16	Leasing can reduce/eliminate the risk of significant cost of transferring ownership	2.27	1.02	2.46	1.01	-0.18	2.14	0.98	2.56	1.02	-0.42
17	Higher disposal value of leased property	1.98	0.96	2.39	1.02	-0.41	1.88	1.01	2.41	0.99	-0.53*
18	Contingent lease rentals can reduce company exposure to economic or business downturns	2.13	0.99	2.03	0.93	0.09	2.08	0.92	2.26	1.03	-0.18
19	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	2.45	1.06	2.44	1.19	0.01	2.45	1.02	2.61	1.12	-0.15
20	Legal consequences of default are less severe for leasing	2.00	0.88	2.14	1.06	-0.14	2.00	0.91	2.21	1.05	-0.21
21	Leasing can be obtained on any scale	2.85	1.17	2.97	1.18	-0.12	2.76	1.18	3.03	1.16	-0.27
22	Leasing is conveniently offered at asset point of sale	2.10	1.10	2.32	1.25	-0.23	1.93	1.05	2.36	1.29	-0.43

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 21 continued:

Panel B: The relative importance of factors in the decision to lease other assets

Row	Question asked (abbreviated)	Total Gearing					Long-Term Gearing				
		High		Low			High		Low		
		Mean	Sdev	Mean	Sdev	Diff	Mean	Sdev	Mean	Sdev	Diff
1	Expanding overall debt-type capacity	2.62	1.14	2.31	1.09	0.31	2.58	1.16	2.29	1.05	0.29
2	Avoiding large capital outlay	3.59	0.92	3.49	1.04	0.11	3.52	0.97	3.54	1.07	-0.02
3	Positive outcome to quantitative analysis	3.21	1.19	3.23	1.29	-0.02	3.21	1.24	3.08	1.23	0.13
4	Rate of interest implicit in lease compared to cost of borrowing to purchase	3.56	1.00	3.54	1.00	0.03	3.59	1.00	3.48	0.99	0.12
5	Leasing is easier to arrange from an administrative point of view	2.35	1.07	2.82	1.12	-0.47	2.26	1.09	2.90	1.13	-0.65*
6	Leasing has the ability to offer a complete package	2.93	1.07	3.32	0.99	-0.39	2.93	1.12	3.08	1.05	-0.15
7	Leasing permits the total financing of an asset (apart from advance rental deposit)	2.79	1.03	3.26	0.97	-0.46*	2.66	1.07	3.28	1.05	-0.62*
8	Leasing can be arranged so rental payments increase over agreement, or final payment is a balloon rental, enabling low rentals to be charged early on	2.23	1.15	2.11	0.80	0.12	2.13	1.13	2.18	0.94	-0.05
9	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	2.56	1.22	2.11	1.10	0.45	2.48	1.20	2.32	1.19	0.16
10	Lease covenants are generally less restrictive than debt covenants	2.78	1.15	2.53	1.08	0.25	2.70	1.20	2.58	1.20	0.12
11	Leasing has minimal impact on measures used in current debt covenants	2.55	1.08	2.00	0.75	0.55*	2.51	1.07	2.25	0.88	0.26
12	Operating leases not accounted for on the balance sheet and have no impact on accounting ratios	2.79	1.24	2.49	1.27	0.30	2.73	1.22	2.49	1.27	0.25
13	Operating lease expenditure avoids capital expenditure controls	1.69	0.90	1.80	1.02	-0.11	1.67	0.85	1.86	1.09	-0.18
14	Conservation of cash flow	3.68	0.92	3.58	0.77	0.10	3.54	0.98	3.50	0.81	0.04
15	Lease rentals are tax deductible but capital allowances are not available on assets purchased	2.63	1.07	3.00	1.03	-0.37	2.76	1.09	3.00	1.04	-0.25
16	Leasing can reduce/eliminate the risk of significant cost of transferring ownership	2.44	1.03	2.66	0.84	-0.22	2.34	1.04	2.77	0.89	-0.43*
17	Higher disposal value of leased property	2.14	0.96	2.57	1.01	-0.43*	2.06	0.99	2.62	0.95	-0.56*
18	Contingent lease rentals can reduce company exposure to economic or business downturns	1.96	0.86	2.06	0.91	-0.11	2.00	0.84	2.10	0.94	-0.10
19	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	2.66	1.05	2.36	1.03	0.30	2.64	1.05	2.50	0.98	0.14
20	Legal consequences of default are less severe for leasing	2.02	0.88	2.21	1.04	-0.18	2.07	0.90	2.28	1.05	-0.22
21	Leasing can be obtained on any scale	3.12	1.18	3.22	0.85	-0.10	3.00	1.16	3.22	0.92	-0.22
22	Leasing is conveniently offered at asset point of sale	2.37	1.17	2.75	1.20	-0.38	2.22	1.16	2.77	1.22	-0.55*
23	Transfer of capital allowances reflected in lower rentals	2.98	1.10	3.22	0.89	-0.24	2.94	1.16	3.23	0.84	-0.29
24	Time apportionment of finance lease expenditure qualifying for capital allowances in first year	2.54	0.94	2.50	0.91	0.04	2.53	0.94	2.47	0.96	0.06
25	WDA restricted to 6% for qualifying expenditure on long-life assets	2.23	0.83	2.50	0.93	-0.27	2.28	0.88	2.50	0.95	-0.22

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 21 continued:
Panel C: The relative importance of factors in the decision *not* to lease land and buildings

Row	Question asked (abbreviated)	Total Gearing					Long-Term Gearing				
		High		Low			High		Low		
		Mean	Sdev	Mean	Sdev	Diff	Mean	Sdev	Mean	Sdev	Diff
1	Leasing is more expensive than other sources of finance	3.52	1.23	3.45	1.27	0.07	3.50	1.32	3.46	1.19	0.04
2	Company preference for legal ownership	3.31	1.29	2.65	1.38	0.66*	3.27	1.27	2.72	1.35	0.55*
3	Some key company executives are opposed to leasing	1.96	1.10	1.40	0.54	0.56*	1.96	1.19	1.50	0.67	0.46
4	Leasing indicates a source of financial weakness	1.78	0.82	1.52	0.69	0.26	1.65	0.72	1.68	0.80	-0.03
5	Leasing does not provide 100% finance due to the requirement of advance rentals	1.78	0.84	1.67	0.82	0.11	1.65	0.69	1.79	0.89	-0.14
6	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at lessor's discretion	3.00	1.19	2.44	1.11	0.57*	3.06	1.22	2.43	1.15	0.63*
7	Loss of grants/taxation allowances if an asset is leased	2.30	1.06	2.49	1.14	-0.19	2.35	1.16	2.53	1.12	-0.18
8	Assets acquired under lease agreements can be repossessed if company defaults	1.92	0.98	1.84	0.83	0.08	1.92	0.95	1.93	0.87	-0.01
9	Company assets are highly specialised or company specific, making it expensive for a lessor to bear the risk of obsolescence and the costs of purchase and disposal	2.28	1.14	2.04	1.17	0.24	2.22	1.14	2.02	1.14	0.20

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 21 continued:
Panel D: The relative importance of factors in the decision *not* to lease other assets

Row	Question asked (abbreviated)	Total Gearing					Long-Term Gearing				
		High		Low			High		Low		
		Mean	Sdev	Mean	Sdev	Diff	Mean	Sdev	Mean	Sdev	Diff
1	Leasing is more expensive than other sources of finance	3.78	0.98	3.69	1.15	0.09	3.81	0.96	3.76	1.10	0.05
2	Company preference for legal ownership	2.92	1.19	2.62	1.39	0.30	2.93	1.12	2.60	1.36	0.33
3	Some key company executives are opposed to leasing	1.93	1.07	1.58	0.78	0.35	1.96	1.15	1.65	0.84	0.31
4	Leasing indicates a source of financial weakness	1.69	0.75	1.64	0.77	0.05	1.64	0.70	1.73	0.82	-0.08
5	Leasing does not provide 100% finance due to the requirement of advance rentals	1.69	0.75	1.68	0.77	0.00	1.63	0.68	1.76	0.76	-0.13
6	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at lessor's discretion	2.69	1.17	2.47	1.06	0.22	2.71	1.19	2.50	1.15	0.21
7	Loss of grants/taxation allowances if an asset is leased	2.42	1.10	2.54	1.11	-0.12	2.47	1.14	2.48	1.07	0.00
8	Assets acquired under lease agreements can be repossessed if company defaults	1.84	0.92	1.96	0.84	-0.12	1.87	0.90	1.98	0.81	-0.11
9	Company assets are highly specialised or company specific, making it expensive for a lessor to bear the risk of obsolescence and the costs of purchase and disposal	2.46	1.27	2.27	1.21	0.18	2.52	1.28	2.14	1.18	0.38

* Significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 22: Message accompanying interview questions

From: Sarah Thomson <s.j.thomson@stir.ac.uk>
To: 'Finance Director's name' <email address>
Sent: June 2001
Subject: **Your participation in financing decisions survey last year**

Dear 'Finance Director's name'

Leasing and Corporate Financing Decisions Questionnaire

Thank you for your assistance in completing the above questionnaire last summer. Your experience and opinions have proved invaluable in providing insight into the corporate financing decision-making processes of UK companies.

The lengthy process of collating and undertaking a preliminary analysis of all responses has now been completed. We are now seeking to further explore one or two key issues. You have been selected, as part of a small group, from those respondents who generously agreed to be interviewed to participate in this process.

A copy of your personal response to the questions included in the original survey is attached for your convenience. We would be obliged if you could consider the following tailored interview questions in relation to some of the original responses you specifically provided.

<Finance director responses>
<List of interview questions>

Thank you for your assistance. A summary of the results for all companies in this study, as requested, will be forwarded to you in due course. May we take this opportunity to again acknowledge your personal contribution to this study and to wish you and your company continued success and prosperity in the 21st century.

Yours sincerely
Sarah Jane Thomson

Appendix 23: Covering letter used in pilot testing of reform questionnaire

Dear Sir/Madam

Lease Accounting Reform Questionnaire: Pilot Testing

Request for your assistance to pilot test a questionnaire designed to obtain opinions on lease accounting given the recent publication of proposals to radically change the current treatment.

The questionnaire is aimed at finance directors of UK public limited companies who are in the forefront of financial statement preparation, and whose opinions are of vital importance. You have been selected as part of a small group to assist in the development stage. Approximately 400 companies will receive the final version of the questionnaire.

A summary of the new proposals is enclosed in case the full implications have not, as yet, been brought to your direct attention. Your thoughts are equally important irrespective of the level of leasing undertaken by your company. We will notify the Accounting Standards Board of our findings to assist in their policy making.

This project is part of an ongoing programme of research. We are concurrently investigating the determinants of capital structure with a specific interest in leasing as a source of finance. Previous areas of investigation have included the impact of constructive capitalisation of operating leases on key accounting ratios, lease – debt substitutability and the recognition of operating leases in the market's assessment of equity risk. All our findings to date have been published or are awaiting publication in leading academic journals. We have also disseminated our findings via professional journals and presented them to the ASB.

We appreciate there are numerous demands on your time. We do, however, ask that you find the time to complete the enclosed questionnaire and answer the questions specifically included for pilot testing. Your participation is crucial in the development of a sound research instrument. It will ensure that the questions being asked are clear, unambiguous and appear relevant to responders. A self-addressed stamped envelope is provided for your convenience. Please return the questionnaire even if you are unable or unwilling to participate in this pilot testing. An indication of the reason for non-participation would be most helpful.

All information you provide is confidential. It will not, at any time, be publicly associated with you or your company.

Thank you for your assistance.

Yours faithfully

Vivien Beattie, MA, PhD, CA	Alan Goodacre BSc, PhD, ACA	Sarah Jane Thomson, BAcc, MSc
Professor	Senior Lecturer	PhD Research Student

Appendix 24: Summary of G4+1 'Leases: Implementation of a new approach', (Accounting Standards Board, December 1999)

General proposals for lessee accounting

The present classification and separate accounting treatment of finance and operating leases should be abolished in favour of one single accounting method applicable to all lease agreements.

An asset and liability arising from *all* material lease agreements should be shown on the lessee's balance sheet, irrespective of the duration of the lease agreement or the nature of the asset. Therefore, the *right to use the asset* for the lease term would be represented, rather than the physical item of property.

Leased assets and liabilities should be recognised on the lessee's balance sheet at a point when delivery has been taken of the asset or it has been otherwise made available for use.

The value of assets and liabilities shown in the lessee's balance sheet at the beginning of the lease term should reflect the fair value of the rights and obligations conveyed by the lease. This cannot be less than the present value of the minimum lease payments for an agreement negotiated at arm's length.

Treatment of options, contingent rentals and residual values

The fair value of the rights conveyed by the lease should include both the right to use the property and also the right to exercise any options (e.g. the ability to extend the lease or purchase additional usage of the leased asset), assuming reliable measurement.

Lease agreements containing genuine options should generally be accounted for on the basis that they will *not* be exercised irrespective of the probable outcome. (If exercise of an 'option' were certain it would not be treated as an option.)

When lease rentals are contingent on lessee revenue or profits, the minimum lease payments are likely to be unrepresentative of the value of the property rights conveyed. In this situation, the fair value of property rights should be recorded by comparing the payments required by a similar lease without provision for contingent rentals.

When lease rentals vary in line with prices, an estimate of future price changes should be included in the value of assets and liabilities recorded at the beginning of the lease[1].

Under present practice, the full amount of a residual value guarantee is included in the minimum lease payments and if, as is generally the case, the lease is a finance lease, is included in the lessee's liabilities. It is proposed under the new approach that only the value of the guarantee (not the amount guaranteed) should be included in the assets and liabilities initially recognised.

[1] The Accounting Standards Board is, however, concerned that reliable estimates of the effect of price increases may not be possible.

Appendix 25: Lease accounting reform questionnaire

LEASE ACCOUNTING REFORM

Notes about the questionnaire

We hope that all applicable questions will be completed by all respondents. If, however, you are unable or unwilling to answer any questions, we are anxious that your replies to the others should remain unaffected.

All answers will remain confidential and will not be publicly associated with your company's identity at any stage.

If there are any queries concerning the completion of this questionnaire,
Please contact:
Sarah Jane Thomson
Telephone: 01786 467305
e mail: S.J.Thomson@stir.ac.uk

CONTENTS

Please note that this questionnaire does not explore accounting by lessors

General instructions on completion:
Where options are provided, please tick the appropriate box or circle the appropriate number from the key provided

The questionnaire asks for your opinions on lease accounting, in light of the discussion paper *Leases : Implementation of a New Approach* ' published by the Accounting Standards Board in December 1999 (a summary of which is attached)

Section A : General issues

1 To what extent do you agree with the following general statements regarding accounting standards?

Key: 1 - strongly disagree, 2 - disagree, 3 - neutral, 4 - agree, 5 - strongly agree, DK - don't know

Accounting standards are:	Strongly disagree				Strongly agree	
(a) an undesirable and unnecessary intrusion into company activities	1	2	3	4	5	DK
(b) desirable and impose no significant burden on companies	1	2	3	4	5	DK
(c) desirable but do impose a significant burden on companies	1	2	3	4	5	DK

2 To what extent are you familiar with the new lease accounting proposals?

(a) Not at all familiar ☐

(b) Slightly familiar ☐

(c) Moderately familiar ☐

(d) Very familiar ☐

3 To what extent do you agree with the following suggested deficiencies of the current accounting standard on leasing (SSAP21)?

	Strongly disagree				Strongly agree	
(a) It does not provide a single accounting method that can be applied to all leases	1	2	3	4	5	DK
(b) It does not provide for the balance sheet recognition of material assets and liabilities arising from operating leases	1	2	3	4	5	DK
(c) It results in leasing transactions which are substantially similar being accounted for in different ways (e.g. if minimum lease rentals amount to 91% of fair value of leased asset, the asset is recorded on lessee's balance sheet, whereas at 89% it might not be recorded)	1	2	3	4	5	DK
(d) It permits leasing transactions to be deliberately structured so as to marginally meet the guidelines for classification as operating leases	1	2	3	4	5	DK
(e) It requires difficult and subjective judgements by account preparers to distinguish between finance and operating leases	1	2	3	4	5	DK
(f) It requires investment analysts and other users to estimate the balance sheet impact of operating leases based on limited information	1	2	3	4	5	DK
(g) It impairs user's ability to make comparisons between companies	1	2	3	4	5	DK
(h) It impairs user's evaluation of the level of financial commitment of lessee companies	1	2	3	4	5	DK
(i) It impairs users in their estimation of the risks involved in providing finance to lessee companies	1	2	3	4	5	DK
(j) It is inconsistent with FRS5 - recording substance over form	1	2	3	4	5	DK

4 To what extent do you agree with the following principles put forward in the proposed new approach to lease accounting?

	Strongly disagree				Strongly agree	
(a) All *material* lease agreements should give rise to an asset and liability in the lessee's balance sheet, (ie. the right to use a leased item for part of its economic life and a related financing obligation).	1	2	3	4	5	DK
(b) One lease accounting method should be applicable to all material leasing transactions	1	2	3	4	5	DK
(c) A lease accounting method should apply to all types of tangible asset, including leases of land and buildings	1	2	3	4	5	DK
(d) A lease accounting method should be equally applicable to leases of intangible assets (eg. intellectual property assets) and tangible assets	1	2	3	4	5	DK
(e) A lease accounting method should not contain a threshold to exclude short leases (such as a minimum lease term of less than a stated period) leaving the issue to be addressed by the concept of materiality	1	2	3	4	5	DK

Section B : Proposals re specific issues

In questions 5 to 7, please assume that the fair value of rights and obligations conveyed by all material lease agreements are required to be recorded on the balance sheet, as suggested in the 1999 ASB Discussion paper.

5 To what extent do you agree with the following statements concerning the accounting treatment of *renewal/purchase options* in lease agreements?

1 - strongly disagree, 2 - disagree, 3 - neutral, 4 - agree, 5 - strongly agree, DK - don't know

	Strongly disagree				Strongly agree	
(a) Exercise of renewal/purchase options should not be anticipated	1	2	3	4	5	DK
(b) Estimates of the probable amount paid under options should be recorded as an asset and liability at the beginning of the lease	1	2	3	4	5	DK
(c) Renewal/purchase options with significant value at the beginning of lease term (ie. lower than market price on exercise) should be accounted for as an asset and liability, separate from the rights and obligations to use the asset for the agreed term	1	2	3	4	5	DK
(d) The value of renewal/purchase options can be reliably ascertained by comparison with the lease rentals for similar agreements excluding the options	1	2	3	4	5	DK
(e) Obtaining option valuations for inclusion in the balance sheet would impose significant compliance costs on lessee companies	1	2	3	4	5	DK
(f) Lessee companies could minimise balance sheet obligations and ensure their future requirements by negotiating short terms of limited asset usage that incorporate renewal and purchase options	1	2	3	4	5	DK

6 To what extent do you agree with the following statements concerning the accounting treatment of lease rentals which are *contingent on revenue/profits* derived from the use of leased property?

	Strongly disagree				Strongly agree	
(a) No recognition should be made for lease rentals which are contingent on future revenue/ profits; they should be treated as an expense when revenue/profits arise	1	2	3	4	5	DK
(b) Estimates of probable amounts paid should be recorded in the balance sheet based on future revenue/profit forecasts	1	2	3	4	5	DK
(c) If minimum lease payments are unrepresentative of the value of property rights conveyed, because of the contingent element, an amount reflecting the fair value should be recognised in the balance sheet	1	2	3	4	5	DK
(d) The fair value of the rights and obligations conveyed by an agreement with contingency rentals based on revenue/profits can be ascertained by having regard to a similar lease agreement excluding the contingency	1	2	3	4	5	DK
(e) It is incorrect to compare a lease agreement with contingent rentals to a similar agreement without contingent rentals, because the contingent element restricts the use of the asset making the lease agreement less valuable (e.g. if it is used to make sales, a % is payable to lessor)	1	2	3	4	5	DK

7 To what extent do you agree with the following in the accounting treatment of lease rentals that *vary in line with prices*? (e.g. upwards-only rent revision on land and buildings)

	Strongly disagree				Strongly agree	
(a) Assets and liabilities should be recognised on the basis of rentals currently payable, without regard to possible future price increases	1	2	3	4	5	DK
(b) Rentals at the beginning of the lease term for a lease with rent reviews will be lower than for an arrangement without. This could be misleading for balance sheet users if no recognition is made for a future liability that will arise if market rents rise	1	2	3	4	5	DK
(c) Assets and liabilities should be recognised on the basis of estimates of rentals that will actually be paid with regard to possible future price increases	1	2	3	4	5	DK
(d) If assets and liabilities are recorded on the basis of estimates of rentals that will actually be paid, these estimates should be reviewed at:						
(i) each balance sheet date	1	2	3	4	5	DK
(ii) rent revision dates only	1	2	3	4	5	DK
(e) Estimates of liabilities arising through rising prices cannot be measured reliably as they require forecasting of future prices at specific dates	1	2	3	4	5	DK
(f) Estimates of liabilities arising through rising prices could be obtained but only at a significant cost due to the requirement of expert advice	1	2	3	4	5	DK

Section C : Consequences

8 To what extent do you agree that the following are direct or indirect consequences of recording the fair value of the rights and obligations conveyed by *all* material lease agreements on the lessee's balance sheet?
1 - strongly disagree, 2 - disagree, 3 - neutral, 4 - agree, 5 - strongly agree, DK - don't know

	Strongly disagree				Strongly agree	
(a) Financial statements would reflect the financial flexibility provided by different leasing arrangements	1	2	3	4	5	DK
(b) Many leases currently characterised as operating leases would give rise to assets and liabilities on the balance sheet	1	2	3	4	5	DK
(c) Reported measures of gearing would increase	1	2	3	4	5	DK
(d) There would be a significant reduction in UK investment and leasing volumes in the short-term, in order to reduce perceived high levels of gearing	1	2	3	4	5	DK
(e) Lessee companies may need to renegotiate their borrowing covenants	1	2	3	4	5	DK
(f) Lease terms would become shorter so as to minimise balance sheet obligations	1	2	3	4	5	DK
(g) There would be a significant additional administrative burden on companies	1	2	3	4	5	DK
(h) There would be significant additional costs of compliance facing companies (directly / indirectly)	1	2	3	4	5	DK
(i) Leasing would become less attractive as a source of finance	1	2	3	4	5	DK
(j) New assets would be purchased (or constructed) rather than leased	1	2	3	4	5	DK
(k) Users' ability to make comparisons between companies would improve	1	2	3	4	5	DK
(l) Users' evaluation of the level of long term finance commitment of lessee companies would improve	1	2	3	4	5	DK
(m) Users would increase their estimates of the risks involved in providing finance to lessee companies	1	2	3	4	5	DK
(n) Users' assessments of the debt paying ability of lessee companies would not be affected	1	2	3	4	5	DK
(o) Some lessee companies would experience a reduction in their credit rating	1	2	3	4	5	DK
(p) Shareholders would reduce their estimates of lessee companies' ability to pay future dividends	1	2	3	4	5	DK

9 The proposed new approach to lease accounting would have major impact on property leases (ie. land and buildings). These are typically long-term leases in which rentals are increased to prevailing market prices at regular intervals. At present, such leases are generally treated as off-balance sheet operating leases. Under the new approach, the present value of future rentals and an estimate of future increases would be recorded on the lessee's balance sheet.

To what extent do you agree with the following suggested consequences of the new approach applied to the leasing of land and buildings?

	Strongly disagree				Strongly agree	
(a) Substantial assets and liabilities in respect of leased property would appear on company balance sheets and would have a marked effect on reported gearing	1	2	3	4	5	DK
(b) Recording lessee interest in leased property as an asset would bring it within the scope of impairment. This has the advantage of writing off any loss when it occurs rather than when the decision is taken to vacate the property	1	2	3	4	5	DK

	Strongly disagree				Strongly agree	
(c) Recording lessee interest in leased property has the advantage of showing an increase in value arising from sub-leasing at a higher rent	1	2	3	4	5	DK
(d) Companies would attempt to minimise balance sheet obligations by negotiating shorter term property leases	1	2	3	4	5	DK
(e) Companies would be reluctant to enter long term property leases making it difficult to fund new property development	1	2	3	4	5	DK
(f) Property rental yields may rise to reflect the higher risk arising from the loss of security of long term tenants	1	2	3	4	5	DK
(g) Companies would find it difficult and expensive to estimate the present value of future property rent increases	1	2	3	4	5	DK
(h) In treating long-term property leases as though they were financing transactions, the combined expense to the P & L account for depreciation and interest in early years of a new lease would substantially exceed market rent	1	2	3	4	5	DK
(i) Companies would purchase property rather than lease	1	2	3	4	5	DK
(j) Users' ability to make comparisons between similar companies leasing and purchasing property would improve	1	2	3	4	5	DK

Section D : Alternative proposals and implementation issues

10 To what extent do you agree with the following statements regarding lease accounting *alternatives*?

	Strongly disagree				Strongly agree	
(a) The current distinction between finance leases and operating leases and their respective accounting treatments should be maintained (i.e. current situation)	1	2	3	4	5	DK
(b) The current guidelines on lease classification should be changed. Instead of recording an asset on the lessee's balance sheet if minimum lease rentals amount to 91% of fair value of leased asset, a 75% threshold should be introduced	1	2	3	4	5	DK
(c) The capitalised value of all leases should be shown in lessee's balance sheet (as proposed in the discussion paper) with other material aspects of the lease agreement disclosed in a note to the accounts	1	2	3	4	5	DK
(d) The capitalised value of all leases should be shown in lessee's balance sheet (as proposed in the discussion paper) without disclosing other material aspects of the lease agreement	1	2	3	4	5	DK
(e) Disclosure should be made in a note to the accounts of all lease commitments and the value of leased assets, without any capitalisation in the balance sheet	1	2	3	4	5	DK
(f) Disclosure should be made in a note to the accounts of the amount and timing of future cash flow commitments for all leases, without any capitalisation in the balance sheet	1	2	3	4	5	DK
(g) If lease commitments are required to be disclosed (rather than capitalised in the balance sheet), they should be analysed by type of asset	1	2	3	4	5	DK
(h) Other *(Please specify.....)*	1	2	3	4	5	DK

Please Turn Over

11 To what extent do you agree with the following statements regarding the *implementation* of new proposals for lease accounting?

1 - strongly disagree, 2 - disagree, 3 - neutral, 4 - agree, 5 - strongly agree, DK - don't know

	Strongly disagree				Strongly agree	
(a) Immediate implementation of current proposals (in which all leases are required to be capitalised) to *new and existing leases*	1	2	3	4	5	DK
(b) A transition period during which the capitalisation of leases currently classed as operating leases would only be required for *new* leases taken out	1	2	3	4	5	DK
(c) A transition period during which the capitalised value of leases currently classed as operating leases would be *disclosed* for existing leases and *incorporated* in the balance sheet for new leases	1	2	3	4	5	DK
(d) A transition period during which the capitalised value of *all* (new and existing) leases currently classed as operating leases would be *disclosed* and only *incorporated* in the balance sheet at the end of the transition period	1	2	3	4	5	DK
(e) Other *(Please specify.....)*	1	2	3	4	5	DK

12 If you have any comments to make on lease accounting issues, please feel free to write them on the front of the inside cover of this questionnaire

Section E : General information

Would you be willing to be interviewed to enable the issues raised in this questionnaire to be explored in more detail? Yes ☐ No ☐

If yes, what form of communication would you prefer?

(a) Face-to-face interview ☐

(b) Telephone interview ☐

(c) Email dialogue ☐
(Please provide email address.....)

Completed by: .....

Position: .....

Please indicate if you would like to receive a summary of the results for this study: ☐

As part of this research programme, we are surveying a sample of finance directors to investigate the financing-decision making process generally. Would you be willing to also take part in this survey? **Yes** ☐ **No** ☐

We greatly appreciate your help. Please return the completed questionnaire in the SAE provided to:

Sarah Jane Thomson *(Lease Accounting Reform)*
Department of Accounting, Finance and Law
University of Stirling
Stirling FK9 4LA

Appendix 26: Covering letter accompanying lease accounting reform questionnaire

Dear Sir/Madam

Lease Accounting Reform Questionnaire

Request for your views on lease accounting given the recent publication of proposals to radically change the current treatment. As finance director of a UK public limited company, you are in the forefront of financial statement preparation, and it is *your* opinions that are of vital importance.

A summary of the new proposals is enclosed in case the full implications have not, as yet, been brought to your direct attention. Your thoughts are equally important irrespective of the level of leasing undertaken by your company. We aim to notify the Accounting Standards Board of our findings to assist in their policy making.

You have been selected from the population of UK quoted companies to participate in this survey, which is part of an ongoing research programme. We are concurrently investigating the determinants of capital structure with a specific interest in leasing as a source of finance. Previous areas of investigation have included the impact of constructive capitalisation of operating leases on key accounting ratios, lease–debt substitutability and the recognition of operating leases in the market's assessment of equity risk. All our findings to date have been published or are awaiting publication in leading academic journals. We have also disseminated our findings via professional journals.

We appreciate there are numerous demands on your time. We do, however, ask that you find the time to complete the enclosed questionnaire and return it in the stamped self-addressed envelope provided. We would be delighted to supply you with a summary of our findings, across all companies and for your industrial sector by way of a thank you. This would allow you to gauge the strength of opinion on lease accounting issues. Please return the questionnaire even if you are unable or unwilling to complete it. An indication of the reason for non-completion would be most helpful.

The number on the top right hand corner of the questionnaire is for identification purposes only. It will enable us to follow up non-respondents and analyse the responses we receive in greater detail. However, we stress that all information you provide is confidential. It will not, at any time, be publicly associated with you or your company.

Thank you for your assistance.

Yours faithfully

Alan Goodacre, BSc, PhD, ACA
Senior Lecturer

Sarah Jane Thomson, BAcc, MSc
PhD Research Student

Appendix 27: First reminder letter accompanying lease accounting reform questionnaire

Dear Sir/Madam

Lease Accounting Reform Questionnaire

We have not, as yet, received back from you a completed Lease Accounting Reform questionnaire, which we mailed to you on 14th June 2000.

Your views on lease accounting, given the recent publication of proposals to radically change the current treatment, are of vital importance. Our findings will be passed on to the Accounting Standards Board to assist in their policy making. Please fill in the questionnaire (if you have not already done so) to ensure that your opinions are included in the survey results. If you have responded within the last few days then please ignore this letter – and thank you.

If you are unable or unwilling to complete the questionnaire, please return it in the stamped addressed envelope provided. An indication of the reason for non-completion would be most helpful and it will render further reminders unnecessary.

Should you require another copy of the questionnaire, please contact:
Sarah Jane Thomson
Telephone: 01786 467305
Email: s.j.thomson@stir.ac.uk

Thank you for your assistance.

Yours faithfully

Sarah Jane Thomson, BAcc, MSc
PhD Research Student

Appendix 28: Second reminder letter accompanying lease accounting reform questionnaire

Dear Sir/Madam

Lease Accounting Reform Questionnaire

On the 14th June 2000, we initially requested your views on lease accounting given the recent publication of proposals to radically change the current treatment. We have not, as yet, received your response.

We appreciate there are numerous demands on your time. However, as finance director of a UK public limited company, you are in the forefront of financial statement preparation, and it is your opinions that are of vital importance. Our findings will be passed on to the Accounting Standards Board to assist in their policy making. Please fill in the enclosed questionnaire (if you have not already done so) and let your opinions count. Your thoughts are equally important irrespective of the level of leasing undertaken by your company. A stamped addressed envelope and a summary of the new proposals are enclosed for your convenience.

If you have responded within the last few days then please ignore this letter – and thank you. If you are unable or unwilling to complete the questionnaire, please return it in the envelope provided. An indication of the reason for non-completion would be most helpful.

Thank you for your assistance.

Yours faithfully

Sarah Jane Thomson
PhD Research Student

Appendix 29: Comparison of early versus late respondents

Panel A: Opinions on accounting standards

Row	Question Accounting Standards are:	Total Mean	Total Stdev	Early Mean	Early Stdev	Late Mean	Late Stdev	Diff
1	intrusion into company activities	1.51	0.8	1.5	0.91	1.54	0.88	-0.04
2	desirable and impose no significant burden on companies	2.67	1.19	2.39	1.16	2.75	1.11	-0.36
3	desirable but do impose a significant burden on companies	3.7	1.1	3.89	1.11	3.72	1.14	0.17

Panel B: Opinions on current lease accounting standard (SSAP21)

Row	Question Agreement with suggested deficiencies of SSAP21:	Total Mean	Total Stdev	Early Mean	Early Stdev	Late Mean	Late Stdev	Diff
1	No single accounting method applicable to all leases	3.61	0.98	3.33	1.24	3.75	0.79	-0.42
2	No balance sheet recognition of material operating leased assets and liabilities	3.81	1.04	3.75	1.07	3.96	1.12	-0.21
3	Substantially similar leasing transactions can be accounted for in different ways	3.91	0.82	4.04	0.81	3.88	0.85	0.16
4	Leasing transactions deliberately structured for operating lease classification	4.12	0.85	4.3	0.88	3.88	0.99	0.42
5	Lease classification requires difficult and subjective judgements	3.28	0.98	3.54	0.88	3.13	0.90	0.41
6	Estimation of balance sheet impact of operating leases based on limited information	3.42	0.85	3.42	0.78	3.35	0.94	0.07
7	Impairs comparison between companies	3.21	1.11	3.46	1.18	3.29	1.04	0.17
8	Impairs evaluation of long term financial commitments	3.07	1.05	3.29	1.23	3.08	0.93	0.21
9	Impairs estimation of risks involved in providing finance to lessee companies	2.77	1	2.64	1.05	3.04	0.88	-0.40
10	Inconsistency with FRS5	3.3	1.1	3.38	1.2	3.29	0.91	0.09

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Panel C: Opinions on the principles put forward in new lease accounting proposals

		Total		Early		Late		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	All material leases recorded on lessee's balance sheet	3.27	1.23	3.64	1.08	3.21	1.25	0.43
2	One accounting method applicable to all leasing transactions	3.32	1.25	3.64	1.22	3.42	1.10	0.22
3	One accounting method applicable to all types of tangible assets including land and buildings	3.07	1.27	3.28	1.28	3.00	1.28	0.28
4	Lease accounting method equally applicable to leases of tangible and intangible assets	3.01	1.13	3.04	1.02	3.13	1.23	-0.09
5	No distinction on the basis of short/insignificant lease agreements	2.96	1.15	2.92	1.29	3.21	0.93	-0.29

Panel D: Opinions on the accounting treatment of renewal/purchase options in lease agreements

		Total		Early		Late		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	No anticipation of renewal/purchase options	3.71	0.86	3.58	1.10	3.65	0.83	-0.07
2	Recording probable amounts paid under options as an asset and liability at beginning of leases	2.83	1.06	2.83	1.13	2.96	1.09	-0.13
3	Renewal/purchase options of significant value recorded as a separate asset and liability	2.57	1.01	2.33	1.20	2.59	0.73	-0.26
4	Renewal/purchase option value ascertained by comparison with lease rentals for similar agreements without	2.66	1	2.17	0.98	3.05	1.00	-0.88*
5	Significant compliance costs involved in obtaining option valuations	4.03	0.84	4.14	0.94	4.04	0.71	0.10
6	Negotiation of short terms of limited asset usage that incorporates renewal and purchase options could ensure furure requirements and minimise balance sheet obligations	3.5	0.76	3.52	0.75	3.30	0.73	0.22

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Panel E: Opinions on the accounting treatment of contingent lease rentals

		Total		Early		Late		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	No balance sheet recognition of contingent lease rentals	3.69	1.00	3.50	0.98	3.42	1.02	0.08
2	Balance sheet recognition based on estimates of probable amounts paid	2.48	1.05	2.71	1.04	2.50	0.93	0.21
3	The fair value of property rights conveyed recognised in the balance sheet if minimum lease rentals are	2.94	0.94	2.74	1.01	3.00	0.83	-0.26
4	Comparison with similar lease agreements without contingency to ascertain fair value of property rights conveyed	2.77	1.01	2.65	1.07	2.95	0.97	-0.30
5	Contingent elements to lease agreements restrict asset use making it incorrect to compare with similar agreements without contingency	3.29	0.88	3.33	0.91	3.18	0.80	0.15

Panel F: Opinions on the accounting treatment of lease rentals that vary in line with prices

		Total		Early		Late		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	Assets and liabilities recognised on basis of rentals applicable at beginning of lease term	3.71	1.08	3.75	1.11	3.64	1.00	0.11
2	The difference in initial rentals for lease agreements with and without rent reviews could be misleading if no recognition is made for future rent rises	2.87	0.98	2.92	0.88	3.13	0.97	-0.21
3	Assets and liabilities recognised on basis of estimates of rentals that will be paid	2.52	1.09	2.36	1.04	2.64	0.95	-0.28
4	Review of estimates that will be paid at each balance sheet date	3.05	1.20	3.12	1.27	3.38	0.97	-0.26
5	Review of estimates that will be paid at rent revision dates	2.95	1.10	2.57	0.92	2.81	1.09	-0.24
6	Estimates of liabilities arising through rising prices cannot be measured reliably	3.81	1.08	3.76	1.23	3.61	1.12	0.15
7	Estimates of liabilities arising through rising prices can be obtained only at a significant cost by requiring expert advice	3.28	1.21	2.60	1.29	3.09	1.04	-0.49

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Panel G: Opinions on the consequences of recording the fair value of the rights and obligations conveyed by all material lease agreements on the balance sheet

		Total		Early		Late		
Row	**Question**	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	Financial flexibility provided by different leasing arrangements would be reflected	2.77	0.96	2.57	0.84	2.83	1.03	-0.26
2	Many operating leases would give rise to assets and liabilities on the balance sheet	4.36	0.59	4.50	0.51	4.25	0.68	0.25
3	Increase in reported measures of gearing	4.18	0.83	4.39	0.66	3.96	0.91	0.43
4	Significant short-term adverse effect of UK investment and leasing volumes	2.85	1.03	2.54	0.83	2.86	1.04	-0.32
5	Renegotiation of borrowing covenants	3.96	0.81	4.05	0.72	3.86	0.83	0.19
6	Shorter lease terms to minimise obligations	3.41	0.95	3.08	1.10	3.57	0.68	-0.49
7	Additional administrative burden	3.64	0.99	3.42	1.18	3.46	0.74	-0.04
8	Additional compliance costs	3.70	0.95	3.61	1.12	3.58	0.78	0.03
9	Lease finance less attractive	3.37	0.90	3.29	0.86	3.46	0.66	-0.17
10	New assets purchased/constructed	2.81	0.77	2.87	0.76	2.57	0.75	0.30
11	Improvement in company comparisons	3.27	1.02	3.65	0.94	3.27	0.94	0.38
12	Improvement in evaluation of long term finance commitments	3.38	1.00	3.71	1.00	3.22	0.85	0.49
13	Increase in estimates of risks involved in providing finance to lessee companies	3.01	0.93	3.04	0.88	2.71	1.01	0.33
14	No effect on assessments of debt paying ability of lessee companies	3.01	0.84	3.00	0.66	3.24	0.77	-0.24
15	Reduction in credit ratings	3.25	0.83	3.09	0.73	3.15	0.81	-0.06
16	Reduction in estimates of lessee company's ability to pay future dividends	2.62	0.75	2.52	0.59	2.55	0.67	-0.03

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Panel H: Opinions on the consequences of the new approach applied to the leasing of land and buildings

		Total		Early		Late		
Row	**Question**	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	A marked effect on reported gearing	4.17	0.74	4.27	0.63	3.88	0.90	0.39
2	Advantage of writing off any loss on leased property when it occurs rather than on vacation.	3.22	0.96	3.30	0.73	3.21	1.02	0.09
3	Avantage of showing increase in value arising from sub-leasing at a higher rent	3.24	0.78	3.27	0.99	3.18	0.80	0.09
4	Negotiation of shorter term property leases	3.38	1.04	3.59	0.96	3.14	1.15	0.45
5	Difficulty in funding new property development due to a reluctance to enter long term leases	3.10	1.08	3.09	0.97	2.86	1.04	0.23
6	Rise in property rental yields to reflect higher risk arising from loss of security of long term tenants	3.07	0.97	3.27	0.94	2.76	0.89	0.51
7	Difficult and expensive to estimate present value of future property rent increases	3.94	0.95	4.09	1.04	3.73	0.99	0.36
8	Combined P&L expense(depreciation and interest) in the early years of a new property lease would exceed market rent	3.55	0.88	3.68	0.58	3.38	0.89	0.30
9	Property purchased rather than leased	2.77	0.85	2.71	0.96	2.90	0.66	-0.19
10	Improvement in comparison between companies purchasing and leasing property	3.26	0.97	3.52	0.85	3.19	0.93	0.33

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Panel I: Opinions on lease accounting alternatives

		Total		Early		Late		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	Maintaining current distinction between finance and operating leases	3.05	1.23	2.67	1.34	3.22	0.90	-0.55
2	Introduction of 75% threashold in finance lease classification	2.73	0.97	2.41	1.01	2.95	0.92	-0.54
3	Capitalised value of all leases recorded in balance sheet with footnote disclosure of other material aspects	2.95	1.23	3.21	1.22	2.96	1.09	0.25
4	Capitalised value of all leases recorded in balance sheet without footnote disclosure of other material aspects	2.27	0.95	2.13	0.68	2.36	1.00	-0.23
5	All lease commitments and asset values disclosed in footnotes without any capitalisation	3.13	1.2	2.92	1.21	3.17	1.11	-0.25
6	Amount and timing of future lease cash flow commitments without any capitalisation	3.16	1.19	3.04	1.08	3.17	1.19	-0.13
7	Analysis of lease commitments by asset type	3.75	0.93	3.46	1.06	3.65	1.11	-0.19

Panel J: Opinions on the implementation of new proposals for lease accounting

		Total		Early		Late		
Row	Question	Mean	Stdev	Mean	Stdev	Mean	Stdev	Diff
1	Immediate implementation to new and existing leases	2.61	1.25	2.72	1.21	2.48	0.95	0.24
2	Transition period with operating lease capitalisation required for new leases	2.55	1.19	2.32	1.18	2.70	1.33	-0.38
3	Transition period with operating lease capitalisation required for new leases and disclosure of capitalised value required for existing leases	2.52	1.14	2.12	0.93	2.70	1.22	-0.58
4	Transition period with the capitalised value of (new and existing) leases disclosed and only incorporated in balance sheet at end of transition period	2.56	1.12	2.40	1.23	2.96	1.11	-0.56

* significant at 5% level 2-tailed test (Mann-Whitney confidence interval and test Minitab)

Appendix 30: Sample selection

In selecting his 300 company sample, Edwards ensured a representation of dead companies in order to prevent any form of survivorship bias, considered necessary in a leasing context. (Previous research findings suggest that leasing may be the only option in acquiring the use of assets for low or unprofitable companies, which have exhausted all alternative sources of finance. (Drury and Braund, 1990, Kare and Herbst ,1990, Sharpe and Nguyen, 1995).

Edwards first identified a group of approximately 250 companies, rendered dead by collapse or take over, by comparing the Times 1000 top UK companies 1981/82 with the 1995/1996 UKQI list of commercial and industrial companies on Datastream. (The UKQI list was selected as it contained all the UK commercial and industrial companies for which Datastream has accounting information (excluding all financial companies). The Times 1000 was used because Datastream does not keep a list of the companies that were in the UKQI list in 1981). A random sample of 300 companies was taken from the combined population of these dead companies and 1300 (approximately) companies recorded on the then current UKQI list. The resulting final sample comprised 125 that survived throughout the period 1981 to 1994, 122 that came into existence and 53 that ceased to exist.

As a test to determine if a representative sample had been obtained, Edwards compared the sample total and mean figures for total assets and share capital with those of the entire 1994 UKQI list, across different industries and ranges of firm size. Although the sample contained a slightly higher proportion of large companies than the population, and some industries were represented in the sample by an increased number of smaller and larger companies than in the population, on the whole a good level of representativeness was judged to be achieved.

Of the 300 companies in the original database, a maximum of 162 companies possessed all the relevant data to calculate the model variables and to participate in the operating lease capitalisation process. Although Edwards took steps to avoid survivorship bias, the sample of companies used in this study were required to be in existence in 1994 and for at least seven years previously in order to calculate the standard deviation of return on assets over a sufficient time period.

Appendix 31: Numerical illustration of operating lease capitalisation process using BOC Group:

In the footnotes to the financial statements for the 1994 year end, BOC disclosed next year's operating lease commitments of £18700K for Land and Buildings, and £10600K for other assets, categorised according to date of expiration in the following way.

Expiration Date	Land & Buildings £'000	Other Assets £'000
less than 1 year	2100	1800
1 to 5 years	10100	6600
over 5 years	6500	2200
Total	18700	10600

These disclosures, along with the following assumptions of remaining lives allowed the operating lease liability as at year end 1994 to be calculated by discounting at an assumed interest rate of 10%.

Expiration Date	Land & Buildings Remaining Life	Other Assets Remaining Life
less than 1 year	1	1
1 to 5 years	3	3
over 5 years	16	7

Taking the Land and Building's category as an example, £1200K is assumed to be due for payment in a year's time, £10100K is due in a years time and for the remaining two years after, and £6500K is due in a years time and for the proceeding 15 years.

Years	Payment Amount	Discount Factor	Liability (£'000)
1	2100	0.9091	1909.11
1 – 3	10100	2.4869	25117.69
1 – 16	6500	7.8237	50854.05
Total			**77880.85**

Appendix 32: Ratios of operating lease asset to liability balance:

Ratios were determined using (ILW, 1991)

$$(RL/TL) * (1-(1+i)^{-TL}) / (1-(1+i)^{-RL})$$

where RL = remaining life of leases
TL = total life of leases
i = interest rate

Company-specific weighted average total and remaining lives were calculated as follows, using BOC Group Land and Buildings as a numerical example:

OPERATING LEASE OBLIGATIONS

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	TOTAL	TL	RL
< 1 year	1100	1800	2000	2300	4600	4900	3400	2700	3200	2100	28100	1	1
1 to 5 years	2000	4900	5700	8000	8600	9600	10900	10100	9000	10100	78900	5	3
> 5 years	2200	4000	3500	4900	4000	4400	5800	5900	6000	6500	47200	25	16
											154200		

Weighted Average TL = [(1*28100)+(5*78900)+(25*47200)] / 154200
= 10.4 years

Weighted Average RL = [(1*28100)+(3*78900)+(16*47200)] / 154200
= 6.6 years

By using the weighted average total life of 10.4 years and remaining life of 6.6 years in the above formula, the ratio of asset balance to liability balance, was estimated at 85.56%, giving an estimated asset written down value of £66635K (85.56% of £77881K the estimated operating lease liability shown on page 10). The depreciation charge deducted from income as a result of operating lease capitalisation, was simply calculated by dividing the asset balance by the average remaining life (i.e. 66635K/6.6 =£10096K). The operating lease rental added back to income was taken as £18700K, next years obligations stated at the 1994 year end.

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