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

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Abstract

Leasing provides a significant source of finance across UK firms. Historically, its use has been attributed to favourable tax treatment and 'off-balance sheet' accounting, both of which have been eroded over time. The present day determinants of leasing have received limited investigation, and prior research has focused on the use of finance leases in isolation from overall corporate financing decisions. This seems inappropriate given the predominant and prolific use of operating leases (Beattie, Edwards and Goodacre, 1998), and evidence to suggest that lease and debt finance appear to be at least partial substitutes (Beattie, Goodacre and Thomson, 2000). Further, proposals issued by the Accounting Standards Board in late 1999 look set to essentially remove the current 'off-balance sheet' accounting treatment of operating leases. If accounting treatment is in any way responsible for the current use of operating leases, these proposals are likely to have a significant impact on the future role of leasing.

In response, the present study investigated both the current role of leasing in the wider context of corporate financing decisions, and its future role in light of the new proposals for lease accounting. Two separate surveys of UK quoted industrial companies were undertaken to investigate corporate financing and leasing decisions and views and opinions on lease accounting reform. Findings are based on a response of 23% (198 completed questionnaires) and 19% (91 completed questionnaires) respectively. OLS regression analysis was also employed for a sample of 159 UK quoted industrial companies, to establish the existence of an 'off-balance sheet' advantage to operating leases from a market perspective.

Findings suggest that UK firms appear more likely to follow Myers' (1984) suggestion of a modified pecking order of capital structure when determining their debt, including leasing, levels. Investment and dividend payout dictate the need for external finance, and debt including leasing is internally rather than externally constrained. On average, internal reserves followed by straight debt appear preferable to leasing. However, the benefits and costs associated with all sources of finance are likely to be considered when additional finance is required. Although tax and 'off-balance sheet' advantages to leasing remain, they do not appear to

dominate the leasing decision in the current climate. Avoiding large capital outlay and cash flow considerations appear of paramount importance in the decision to lease all asset types.

Findings suggest that the preference for leasing over other forms of debt is not anticipated to change in response to the new proposals for lease accounting. However, the new 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. Although operating lease obligations appear to be currently taken into account in the UK market's assessment of equity risk, the accuracy with which they are taken into account remains unclear. Therefore, the revaluation of securities in the wake of the new proposals becoming mandatory is not beyond the realms of possibility.

The present study provides a holistic analysis of corporate financing and leasing decisions in UK firms. It provides a valuable contribution to the capital structure debate. It would seem inappropriate for future capital structure research to focus on proving alternative static trade-off and pecking order theories. Future research would benefit from a reconciliation of the two. The present study highlights the difficulties in analysing corporate financing and leasing decisions, by establishing that they are complex, multidimensional and essentially situation-specific. The present study also has important implications for policy makers. In addition to the potential economic consequences, findings appear to suggest that certain features of the new proposals fall short of developing into a high quality lease accounting standard. Further consideration by policy makers from alternative perspectives appears necessary.

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Chapter 1: Introduction

Leasing is currently used to finance a significant proportion of UK investment in equipment; 15.3% in 1999 according to the Finance and Leasing Association. It is not a new source of finance, although the substantial growth in its use can be dated back to the 1970's and early 1980's. However, this growth has been attributed to the favourable tax treatment and 'off-balance sheet' nature of leasing, both of which have been eroded over time. The present day determinants of leasing have received limited investigation by researchers, and the focus has been on the use of finance leases, in isolation from overall corporate financing decisions. This is inappropriate in light of recent evidence to suggest that the use of finance leases is insignificant in relation to operating leases (Beattie, Edwards and Goodacre, 1998), and that lease and debt finance appear to be at least partial substitutes (Beattie, Goodacre and Thomson, 2000). In response, the present study investigates the role of leasing, at the beginning of the 21st century, in the wider context of corporate financing decisions.

The present study is especially timely given that lease accounting regulation is in the throes of change. Proposals issued by the Accounting Standards Board in late 1999 essentially require the capitalisation of operating leases. If the provision of off-balance sheet finance is in anyway responsible for the current use of operating leases, then the new proposals are likely to have a significant impact. An indication of the potential impact on the future role of leasing, if these proposals become mandatory, is also investigated in the present study. This is addressed in the following ways. Firstly, by establishing if the current lease accounting treatment appears to feature as a major determinant of leasing. Secondly, by investigating the views of account preparers on lease accounting reform. Thirdly, by determining if the off-balance sheet nature of operating leases really is an advantage, by investigating if operating lease disclosures are currently taken into account in the UK market's assessment of equity risk. The background surrounding these issues, leading to an outline of the present study's intentions and structure, is provided in this chapter.

1.1 Background and motivation to the present study

A lease agreement conveys a right to the use of a specific asset for an agreed period of time to a lessee, in exchange for the payment of specified rentals to a lessor who retains legal ownership. Leasing thus provides the option of employing business assets without acquiring ownership by financing their purchase.

Leasing originates from the 19th century when it was used to provide capital for the railways. However it was during the 1970's and early 1980's when the use of leasing in the UK grew substantially. This growth has been primarily attributed to both the off-balance sheet accounting treatment of leased assets and corresponding obligations, and favourable tax treatment. Prior to 1984, lease rental payments were generally expensed in the profit and loss account, with neither leased asset nor liability being recorded on the balance sheet. Consequently, performance measures and borrowing powers were unaffected.

Leasing is unique in comparison to other sources of finance in relation to the claim on capital tax allowances. In a lease agreement, the lessee acquires the right to use the leased asset, rather than the finance to acquire ownership. Consequently, the lessee surrenders the right to claim capital tax allowances to the lessor, who retains the legal ownership. Prior to 1970, capital tax allowances were at low levels, creating indifference in terms of tax advantages between leasing and financing to purchase. However in 1970, a first year allowance permitting 60% of a qualifying asset's cost to be immediately written off against taxable profit, was introduced. This allowance was further increased to 80% in July 1971 and finally 100% in March 1972. As a result, a large number of companies investing in significant asset expansion programmes became tax-exhausted. The capital tax allowances available were in excess of taxable profits. At the same time, finance and service companies were subject to significant amounts of corporation tax. These companies reported substantial profits owing to the high interest rates of the time, with little allowable capital expenditure to offset. Leasing provided the opportunity for these companies to reduce their tax burden by claiming first year allowances on leased assets. Tax-exhausted companies were given the incentive to lease by the offer of lower rental payments, and the fact additional first year allowances were of no immediate use. Prior research investigating the use of leasing in the UK during this time period is

essentially survey based. Findings confirm the apparent importance of capital tax advantages of leasing to large firms (Sykes, 1976). However, leasing appeared less significant to small firms at that time (Tomkins, Lowe and Morgan, 1979).

In 1984, both the off-balance sheet and tax advantages to leasing diminished. First year capital tax allowances were phased out by the 1984 budget. Allowable expenditure incurred since March 1986 has generally qualified for a 25% writing down allowance. The reduction of corporation tax rates in 1986 and subsequent years also reduced the advantage to be obtained from the lessee passing on capital tax allowances to the lessor. Also in 1984, the Accounting Standards Committee introduced SSAP 21 'Accounting for leases and hire purchase contracts', stipulating the lease accounting treatment that remains in force today. 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 lessee's balance sheet. Next year's 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. It was intended that operating leases amount to nothing more than a cancellable periodic expense, and leasing no longer provided the opportunity for off-balance sheet financing.

The removal of first year capital tax allowances, and the introduction of specific lease accounting regulation might have been expected to cause a decline in the use of leasing. However, this does not appear to have been the case. During the mid to late 1980's, leasing averaged 18.1% of UK investment in plant and equipment (ACCA, 2000). This level of investment has generally remained throughout the 1990's. According to the Finance and Leasing Association, during the period 1992 to 1999, leasing averaged approximately 17.1% of new investment in equipment and vehicles. It is suggested that leasing may still be favoured for actual tax saving reasons, or for the timing of tax savings, either through the lessor's claim on capital allowances (Day, 2000), or because the total amount of lease rentals payable on non-qualifying assets, are tax deductible. Further, a significant off-balance sheet

advantage appears to remain with the operating lease accounting treatment required under SSAP 21.

Although SSAP 21 provides the 90% present value test, it was not intended as a strict mathematical definition of a finance lease. Technical release 664 issued in 1987 emphasises that all of the terms and conditions of a lease agreement should be considered when determining if substantially all risks and rewards of ownership have been transferred. However, qualitative tests are not provided to establish if this is the case for a lease failing to meet the 90% test. In this situation, lease classification becomes a matter of judgement. Operating lease classification and off-balance sheet disclosure thus appears possible for any agreement when the 90% test can be circumvented. Further, evidence exists of company managements' unwillingness to disclose methods used in lease classification (Loveday, 1994), and of restructuring to avoid finance lease capitalisation (Taylor and Turley, 1985; Drury and Braund, 1990).

Irrespective of accounting treatment, it is suggested that leasing might be used to extend a firm's capacity for borrowing, if it is perceived that leasing obligations consume less debt capacity than non-leasing debt alternatives, or if lease agreements contain less restrictive covenants (Schallheim, 1994; Day, 2000). Lease agreements permit flexibility when sharing the risks and rewards of ownership between lessor and lessee. It is also suggested that leasing may be beneficial in response to cash flow fluctuations (Schallheim, 1994; Day, 2000), and for more practical considerations such as the provision of service and maintenance (Belkaoui, 1998; Day, 2000).

Prior research investigating reasons for the continued popularity of leasing, in both the UK and the US, have adopted either a direct survey approach[1], or used accounting/company data to observe leasing decisions and infer reasons.[2] There is a body of evidence to suggest that tax reasons and off-balance sheet advantage

[1] UK: Mayes and Nicholas (1988), Drury and Braund (1990); US: O'Brien and Nunnally (1983), Mukherjee (1991), Bathala and Mukherjee (1995).
[2] UK: Adedeji and Stapleton (1996), Lasfer and Levis (1998), Beattie, Goodacre and Thomson (2000); US: Ang and Peterson (1984), Kare and Herbst (1990), Krishnan and Moyer (1994), Bathala

continue to influence the leasing decision. Cash flow considerations feature, and US evidence suggests that lease covenants are less restrictive. There appears to be a distinct lack of investigation into the use of leasing for certain practical considerations, for example the convenience with which leasing can be obtained. However, the majority of prior studies are based on analysing accounting/company data. Although this approach highlights the existence of relationships between leasing and other firm characteristics, by nature it fails to capture the more practical aspects. The survey method has the potential to consider a full spectrum of quantitative and qualitative reasons for leasing. Unfortunately survey evidence post the introduction of tax changes and lease accounting regulation is fairly limited. Further, the most recent UK survey (Drury and Braund, 1990) was conducted over a decade ago. The business environment of the late 1980's bears little resemblance to the global, technological business environment at the beginning of the 21st century. Therefore, although leasing has retained a fairly constant level of popularity, the reasons for its use at the beginning of the last decade compared to the beginning of the 21st century may be far from constant.

The nature of lease agreements has changed over time. Finance leasing appears to be slowly in decline (FLA, 2000), whereas the use of operating leases appears to have grown dramatically over time. For example, in 1981 the average operating lease payments due within one year, for a sample of 297 UK quoted companies, amounted to approximately £0.2million[3]. By 1994, this had increased to approximately £8.2million (Goodacre and Beattie, 1999). The apparent switch from the use of finance leases to operating leases might be partly attributable to the removal of the off-balance sheet advantage to finance leases under SSAP 21. However, the use of operating leases may reflect changing business needs and subsequently the reasons for leasing.

The existence of both somewhat limited and outdated evidence, and the significance of operating leases as a source of company finance, provides sufficient incentive to investigate the role of leasing in the present business environment. However, there

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and Mukherjee (1995), Sharpe and Nguyen (1995), Graham, Lemmon and Schallheim (1998), Mehran, Taggart and Yermack (1999), Duke, Franz, Hunt and Toy (1999)

[3] Expressed in 1994 prices to account for inflation

is further motivation behind such an undertaking. The focus of prior research is, generally, to establish why leasing might be considered preferable to non-leasing debt alternatives. Recent evidence in the UK and the US suggests, from a company management perspective, that leasing and debt appear to be at least partial substitutes (Marston and Harris, 1988; Beattie, Goodacre and Thomson, 2000). Thus, when a company enters a lease agreement, the potential to take on future non-leasing debt is reduced. If leasing is a form of debt, and consumes capacity for debt, then the decision to lease is not independent from the decision to determine the overall level of debt finance. The majority of prior research, which generally considers the leasing decision in isolation from overall corporate financing decisions, therefore appears inappropriate.

Extensive research has been undertaken to establish how firms determine their levels of debt and equity. However, the theory and empirical evidence spanning over half a century is vast, but by no means conclusive. An element of this prior research could be considered somewhat outdated in relation to the present business environment. In the UK, evidence is almost entirely based on the analysis of accounting data to determine capital structure choices[4]. This approach does not appear to provide the opportunity for a comprehensive assessment of the situation. The survey method has been recently adopted in the US context (Graham and Harvey, 2001) to extend the scope of capital structure investigation, and to establish the relative importance of competing theoretical issues. A survey investigation of present day corporate financing decisions in the UK appears to be unexplored territory. An investigation of both present day capital structure and leasing decisions in UK firms, would not only place the leasing decision in context, but also provide a valuable contribution to the overall capital structure debate. The aim of the present study is to do just that.

An investigation of the role of leasing in corporate financing decisions should provide an indication of whether the current accounting treatment of operating leases significantly contributes to their use. This appears necessary in relation to future use, given that the current accounting treatment looks set to change. In late

[4] Bennett and Donnelly (1993); Lasfer (1995); Adedeji (1998); Jordan, Lowe and Taylor (1998); Ozkan (2001); Bevan and Danbolt (2002)

1999, the Accounting Standards Board published the discussion paper 'Leases: Implementation of a New Approach'. In this document, it is proposed that the distinction between finance and operating leases be removed, with the rights and obligations under all material lease agreements capitalised on the lessee's balance sheet. As a result, many lease agreements currently disclosed off-balance sheet would be recognised on balance sheet. Evidence shows that reported measures of performance could be significantly affected by the capitalisation of operating lease obligations (Imhoff et al., 1991; Beattie, Edwards and Goodacre, 1998). The proposed changes in accounting treatment thus have the potential to alter the decision-making of lessees, in terms of the future use of leasing, in anticipation of the reaction of users of their financial statements.

The impact on decision-making depends on the perceptions of lessees in relation to the full appreciation of operating lease obligations from footnote disclosures. Also, it depends on whether operating lease obligations can be, and whether they actually are, fully appreciated from current disclosures by users. An indication of lessees' perceptions might be inferred from the importance attached to an off-balance sheet advantage in the leasing decision. However, knowledge of the views and opinions of lessees/potential lessees in specific relation to lease accounting treatment could prove insightful. Therefore, the present study also includes a comprehensive investigation of views and opinions in relation to SSAP 21, the proposed new treatment and potential consequences. Although views and opinions do not necessarily translate into the future behaviour of lessees, they might at least be expected to influence it. Evidence in relation to the steps lessees might take in response to lease accounting reform is thus provided.

The Accounting Standards Board requested the views of interested parties on the new proposals for lease accounting as part of their consultation process. 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 individual lessees. As a by-product, the present study, by specifically obtaining individual views and opinions, further assists in the consultation process.

The role of leasing is less likely to be affected by a change in accounting treatment if operating lease obligations are currently appreciated from footnote disclosures. The impact of operating lease capitalisation would be irrelevant if users of financial statements 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). There is fairly convincing evidence to suggest operating leases are recognised by users in aggregate in the US markets' assessment of equity risk (Imhoff et al., 1993; Ely, 1995). However, these findings were not supported in an investigation of the Australian market (Imhoff and Gallery, 1998). There appears to be a distinct lack of investigation in relation to both individual and users in aggregate in the UK context. 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; Anderson and Epstein, 1996). Therefore, using US evidence to make inferences about operating lease recognition by aggregate UK users may not be valid. Evidence specifically in relation to the UK situation is therefore essential. The present study provides such evidence through an investigation of the recognition of operating leases by aggregate users in the UK market's assessment of equity risk.

1.2 Research questions, approaches taken and thesis organisation

The present study comprises three individual studies, which are linked in terms of the present and future role of leasing in UK corporate financing decisions.

The first study addresses two broad research questions in relation to the present role of leasing – 'What are the determinants of capital structure?' and 'What determines corporate leasing policy?' Investigating the determinants of capital structure involves establishing how firms decide on their levels of debt and equity. This appears to rest on two main issues. Firstly, according to whether debt levels are optimised by balancing related costs and benefits or whether they reflect investment

and dividend needs. Secondly, how the characteristics and circumstances of a firm relate to the individual benefits and costs from issuing debt. Determining the role of leasing appears to involve establishing how leasing relates to other forms of non-leasing debt, the potential drawbacks and additional advantages. These research questions could potentially be addressed in several ways. Prior researchers have adopted either a survey approach, or used accounting/company data to observe capital structure and leasing choices. The leasing and corporate financing decisions of individual firms could be investigated by case study. Alternatively, an experimental approach could be used to observe financing choices.

A questionnaire survey is employed in the present study in order to obtain a wide range of information in relation to both the corporate financing and leasing decisions of UK quoted industrial companies. As leasing is widely used across firms, a survey investigation provides the potential to obtain information from a wide range of firms. On this basis, the case study and experimental approach are deemed inappropriate at this stage. They would be situation specific and limited in scope. The use of accounting data would permit the financing choices of a wide range of firms to be observed. However, the nature of such a study prohibits a comprehensive assessment of decision-making, and excludes practical considerations such as the provision of service and maintenance. Further, the majority of prior studies use regression analysis to establish relationships between leasing/debt and other firm characteristics. Using a survey approach allows triangulation (Jick, 1979). In regression analysis, relationships are established using accounting/company data over a period of time. However, the reasons for leasing may not have remained constant over time, given the rapidly changing business environment. Therefore, an indication of financing choices using historical data may not necessarily reflect decision-making at the beginning of the 21st century. A survey approach is not without problems. However, established techniques can be employed in order to achieve an acceptable response rate, and to ensure responses received are both reliable and provided in context. The survey investigation of corporate financing and leasing decisions in the present study forms Part 1 of this thesis, Chapter 2 through to Chapter 6.

The second and third studies relate to the future role of leasing, given the proposed changes in lease accounting regulation. The second study addresses the following research question: 'What are the views and opinions of financial statement preparers (lessees/potential lessees) in relation to lease accounting reform'. This involves establishing views and opinions in relation to the current lease accounting treatment, proposed changes and potential consequences. A questionnaire survey is used to obtain the views and opinions of a wide range of preparers. Although more detailed views and opinions could have been extracted by interviews, the range of views and opinions would have been limited. The survey investigation of lease accounting reform forms Part 2 of this thesis, Chapter 7 through to Chapter 11.

The third study addresses the research question: 'Do UK investors recognise operating lease obligations from footnote disclosures in their assessment of equity risk?' The aim is to establish whether operating leases really carry an off-balance sheet advantage. A market perspective is adopted to investigate if users in aggregate currently appreciate operating leases from footnote disclosures. Other off-balance sheet advantages of operating leases may arise 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, however, beyond the scope of the present study. Although the present study addresses the question of off-balance sheet market advantage, establishing the degree of advantage is also beyond the scope of the present study. A comparison between operating lease estimates made by investors/analysts and actual valuations from lease contracts would be required to assess the accuracy of appreciation of operating lease disclosures. The present study involves an indirect test, to determine whether there is an association between equity risk and an operating lease adjustment to financial risk. Regression analysis is employed using accounting/company data for a sample of UK quoted industrial companies. Operating lease obligations from footnote disclosures are used in a process of constructive capitalisation. This market risk study forms Part 3 of this thesis, Chapter 12 through to Chapter 16.

1.3 Contribution of the present study to existing knowledge

The present study provides empirical evidence in relation to the role of leasing in UK corporate financing decision-making. By employing a survey approach, a holistic analysis of the situation is possible. Prior UK survey evidence of leasing decisions is outdated in relation to the present business environment, and is somewhat inappropriate when the leasing decision is considered in isolation. The present study rectifies this situation. The present study contributes to the overall capital structure debate. It provides comprehensive empirical evidence of capital structure decisions by UK firms. It responds to limited UK evidence and evidence from elsewhere which is conflicting and somewhat outdated. The survey investigation in the present study is arguably the most rigorous and extensive investigation of corporate financing and leasing decisions in the UK to date.

The present study, by documenting the role of leasing under current lease accounting regulation, assists in predicting the future role in light of proposed changes. The present study contributes the views and opinions of account preparers on lease accounting reform. Evidence in relation to lessees' perceptions of operating lease appreciation from footnote disclosure is obtained. An indication of the reactionary steps lessees might take in response to lease accounting reform is also provided. The present study, by obtaining the views and opinions of individual preparers, assists in the Accounting Standards Board's consultation process. The present study provides evidence in relation to UK market recognition of operating lease obligations from current footnote disclosures. Prior UK evidence in relation to the recognition versus disclosure of operating lease obligations does not appear to exist. An indication of the current recognition of operating lease obligations from footnote disclosures assists in the prediction of market reaction, if the proposals for lease accounting reform become mandatory.

The present study thus contributes extensively in relation to knowledge of the present and anticipated future role of leasing in the UK. An overall summary, conclusions and opportunities for further research are provided in Chapter 17 of this thesis.

Part 1:

Corporate financing and leasing decisions

Chapter 2: Introduction–Corporate financing and leasing decisions

The two broad research questions addressed in the first part to this thesis are 'what are the determinants of corporate capital structure?' and 'what determines corporate leasing policy?'

The motivation behind both questions is several-fold. Although the use of lease finance by UK firms is both extensive and widespread (Beattie et al., 1998), present day determinants of leasing have received limited investigation. The nature of lease agreements has altered over time. Finance leases which provide the focus for the majority of prior research are in decline, whilst operating leases appear to be a growth market (Finance and Leasing Association, 2000). The majority of prior research considers the leasing decision in isolation. This is inappropriate in light of evidence to suggest that lease and debt finance appear to be at least partial substitutes (Marston and Harris, 1988; Beattie et al., 2000). If leasing is a form of debt, and thus consumes a firm's capacity for debt, then the decision to lease is not independent from the decision to determine the overall level of debt finance. How firms determine their levels of debt and equity has confounded researchers for over half a century. The theory and empirical evidence in existence is by no means conclusive.

In response, the present study offers a comprehensive survey investigation of corporate financing and leasing decisions in UK firms. The aim of this chapter is to introduce the situation in respect of the above research questions in terms of pre-existing theory and evidence. 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.

Present day capital structure theory comprises several elements. At the outset, firms appear to either adopt a level of optimum finance which subsequently dictates dividend pay-out and investment levels (static trade-off theory) or they adopt a level of dividend pay-out and investment which dictates the level of finance (pecking order theory). In the static trade-off theory, the various costs and benefits of issuing debt are balanced to derive an optimum level. These benefits include the interest tax

shield of debt (Modigliani and Miller, 1958; Miller, 1977), and agency benefits such as the mitigation of conflicts of interest between shareholders and managers (Jensen and Meckling, 1976; Grossman and Hart, 1982). The costs include the financial distress potential to debt. Both direct and indirect costs, which arise as a result of the increased risk of not meeting interest payments and subsequent liquidation or bankruptcy. Agency costs also arise as a result of debt holders making provisions, such as the inclusion of restrictive covenants, to protect their interests against those of shareholders (Jensen and Meckling, 1976).

In the pecking order theory, firms follow a hierarchy or pecking order of financial sources. Firms prefer internal funds, and equity issues are avoided by issuing debt to meet external financing requirements for as long as possible (Donaldson, 1961). The reluctance to issue equity arises from the existence of asymmetrical information (Myers, 1984). Firms avoid issuing equity to prevent the signalling of information to investors resulting in a decrease in firm value. However, it is not clear at which point the issue of equity is considered unavoidable. Unless debt holders ultimately restrict a firm's access to debt finance, equity appears only to be issued when issuing debt would result in a greater decrease in firm value. To arrive at this decision, balancing the benefits and costs of issuing additional debt appears to be necessary. In this respect, the static trade-off and the pecking order theories do not appear to be entirely mutually exclusive. The main distinction lies in the initial focus of whether the level of debt is primarily (static trade-off) or residually determined (pecking order).

The mix of debt and equity has control implications as equity carries voting rights and debt does not. It is suggested that the level of debt adopted by firms may be affected, albeit in the short-term, in response to imminent take-over bids (Harris and Raviv, 1991). In the stakeholder theory of capital structure (Titman and Wessels, 1988) it is suggested that the behaviour of various firm stakeholders is affected by the financial distress potential of debt. Certain firm characteristics, such as low profitability, non-standardised assets and specialised products, employees and suppliers, are said to accentuate financial distress potential. Further, it is suggested that the strategy adopted in terms of competition and growth or expansion influences a firm's financial distress potential (Jordon, Lowe and Taylor, 1998;

Belkaoui, 1999). The management/ control strategy is also said to impact on agency costs (Belkaoui, 1999). In contrast to the static trade-off and pecking order theories, the corporate control, stakeholder and strategy theories do not appear to offer an explanation of the process by which the level of debt is chosen. Rather, they appear to highlight situations in which the benefits and costs of debt are enhanced or mitigated, and thus in which high or low levels of debt might be expected.

Determining corporate capital structure appears, therefore, to rest on two main issues. Firstly, according to whether debt levels are optimised by balancing costs and benefits, or whether they are the products of investment and dividend needs. Secondly, how the characteristics and circumstances of a firm relate to the individual benefits and costs derived from issuing debt.

Many of the benefits/costs of issuing debt are equally applicable to leasing. However, additional benefits have been identified which suggest why leasing might be considered preferable to non-leasing debt alternatives. Leasing might be favoured for actual tax savings, or for the timing of tax savings, either through the lessor's claim on capital allowances (Day, 2000), or because the total amount of lease rentals paid on non-qualifying assets are tax deductible. It is suggested that leasing might be used to extend a firm's capacity for borrowing, if it is perceived that leasing obligations consume less debt capacity than non-leasing debt alternatives, or if lease agreements contain less restrictive covenants (Schallheim, 1994; Day, 2000). Leasing is equally available to finance individual assets or large-scale acquisitions (Schallheim, 1994; Belkaoui, 1998). It also brings cash flow benefits in terms of 100% financing and flexible repayment (Schallheim, 1994; Day, 2000). Leasing is said to provide flexibility by sharing the risks and rewards of ownership, in terms of obsolescence, acquisition and disposal, between parties to the agreement in a cost-effective way (Smith and Wakeman, 1985; Schallheim, 1994; Belkaoui, 1998; Day, 2000). Operating leases may be favoured for reasons of 'off-balance sheet' financing (Smith and Wakeman, 1985). It is also suggested that leasing may be more advantageous in terms of application, availability and the provision of service and maintenance packages (Day, 2000; Belkaoui, 1998). Leasing thus appears to be favoured for mitigating the costs and enhancing the benefits

associated with the issue of non-leasing debt, in addition to more practical considerations.

Prior researchers have adopted two main approaches when investigating the determinants of corporate capital structure and leasing policy. The majority of prior studies use accounting / company data to observe capital structure and leasing choices. The intentions and perceptions of corporate managers have also been investigated by survey. The analysis of accounting data has involved the examination of cross-sectional relationships between debt ratios and lease ratios and other firm characteristics, as well as the examination of firm's previous decisions to issue debt and equity. Although an alternative case study or experimental approach could potentially be applied to such an investigation, it would be situation specific and limited in scope.

The relationships between debt ratios and other firm characteristics have been extensively examined in numerous UK, US and International studies. There is fairly convincing evidence to suggest that the level of debt adopted by firms appears to be related to industry classification[1], profitability[2], investment in research and development[3], dividend payout[4] and investment opportunities[5]. However, in relation to other firm characteristics, findings appear to be either conflicting or have not as yet been widely tested. There is difficulty in interpreting precisely the relationship that some of the explanatory variables in these studies are capturing, given that alternative proxies have been employed. Previous researchers have not found it possible to capture all relationships in one model, resulting in the undertaking of so many studies, each adopting a slightly different focus. The absence of rigorous diagnostic testing in the majority of previous studies is a problem, given that relationships are likely to exist not only between debt ratios and other firm

[1] Ferri and Jones, 1979; Kester, 1986; Titman and Wessels, 1988; Graham et al., 1988; Bennett & Donnelly, 1993.
[2] Toy et al., 1974; Kester, 1986; Titman and Wessels, 1988; Baskin, 1989; Chang and Rhee, 1990; Bennett and Donnelly, 1993; Rajan and Zingales, 1995; Adedji, 1996; Mehran et al., 1999; Wald, 1999; Bevan and Danbolt, 2002; Ozkan 2001.
[3] Bradley et al., 1984; Titman and Wessels, 1988; Balakrishnan and Fox, 1993; Graham et al., 1998; Wald, 1999; Adedeji 1996)
[4] Baskin, 1989; Mehran et al., 1999; Adedeji, 1998.
[5] Rajan and Zingales, 1995; Lasfer, 1995; Graham et al., 1998; Mehran et al., 1999; Belkaoui, 1999; Bevan and Danbolt, 2002; Ozkan, 2001.

characteristics, but also between the firm characteristics themselves. Although previous researchers have attempted to model the process of how firms determine their levels of debt and equity in terms of the static trade-off versus the pecking order models (Fama and French, 1999; Shyam-Sunder and Myers, 1999; Frank and Goyal, 2000), the evidence is not conclusive.

There is a degree of evidence, from the examination of previous decisions to issue debt and equity, to suggest that both UK and US firms operate with target debt ratios (Taggart, 1977; Javiland and Harris, 1984; Opler and Titman, 1996; Marsh, 1982). Firms also appear not to be deterred from issuing equity in response to favourable market conditions (Javiland and Harris, 1984; Marsh, 1982). In the UK, there is some evidence to suggest that agency costs and tax benefits to debt are both given consideration in the decision to issue new finance (Walsh and Ryan, 1997). These findings appear conducive to the static trade-off theory of capital structure, rather than the pecking order suggestion of equity being issued only as a last resort.

In contrast, the pecking order theory appears to gain more support among researchers adopting a survey approach (Donaldson, 1961; Pinegar and Wilbricht, 1989; Graham and Harvey, 2001; Allen 1991a, 1991b). However, although maintaining spare debt capacity and financial flexibility appears to be of major concern, the use of target debt ratios and tax implications does not appear to be irrelevant. These findings are reflected in the Graham and Harvey (2001) survey of US firms. The vast majority of survey research in relation to capital structure is US based. The Graham and Harvey study is relevant, on the basis of timing, to the current business environment. However, prior studies appear to be limited to certain issues, and thus extremely partial, making it difficult to draw robust conclusions. There appears to be a definite lack of survey evidence from the UK both past and present. It appears to be restricted to a limited and somewhat dated study by Fawthrop and Terry (1975), and a comparison of a relatively small number of UK firms with Australian and Japanese counterparts (Allen, 1991b).

Taken as a whole, there appears to be a mixture of both supporting and contradicting evidence in relation to the suggested theoretical outcomes of issuing debt. Moreover, the process of determining capital structure appears to be a grey

area, rather than a straight black or white choice between the static trade-off and pecking order theories. However, UK evidence is fairly limited, and an element of prior empirical evidence obtained in the US, UK and elsewhere could be considered somewhat outdated in relation to the present business environment at the beginning of the 21st century. UK evidence is also almost entirely based on the use of accounting data. It comprises different studies which have focused on different aspects of capital structure, and which by their nature prohibit a comprehensive assessment of the situation. The survey method provides the opportunity to extend the scope of an investigation and provides the opportunity to establish the relative importance of all theoretical issues. A survey of capital structure determinants in the UK thus appears to be an essential and long over due requirement to the overall debate.

The approaches taken to investigate corporate financing decisions have been equally applied to leasing. In contrast to capital structure surveys, the majority of survey research on the determinants of leasing is UK based. However, it is mainly conducted prior to the introduction of lease accounting regulation and the current tax status. The evidence from the most recent leasing survey in the UK (Drury and Braund, 1990) appears to stress the importance attached to cost and tax implications. In addition, other qualitative factors to leasing appear important, especially in relation to small firms. However, this evidence is focused on the use of finance leases, whereas operating leases are predominant and prolific in the present climate. Further, the evidence is based on the business environment of the late 1980's, which bears little resemblance to the global business environment of today.

The analysis of accounting/company data has been used to compare the characteristics of leasing and non-leasing firms, and to identify characteristics that appear to promote high/low levels of leasing. However, the majority of studies have focused on capitalised finance lease obligations. There is evidence to suggest that firms using finance leases appear to have higher levels of financial gearing[6], higher growth in assets[7] and lower ability to service debt[8] in comparison to firms which

[6] Kare and Herbst, 1990; Krishnan and Moyer, 1994; Lasfer and Levis, 1998
[7] Krishnan and Moyer, 1994, Lasfer and Levis, 1998
[8] Krishnan and Moyer, 1994

don't. The nature of relationships between the degree of leasing and certain firm characteristics remains unclear, owing to the conflicting evidence provided across UK and US studies. In the UK, leasing appears to be negatively related to gearing and liquidity, and is influenced by the industry in which a firm operates (Beattie et al., 2000). Firm size also appears influential, but any evidence in respect of a linear relationship between firm size and the level of leasing is absent. Relationships between leasing and other firm characteristics do not appear to be statistically significant. The differences existing between relationships found in UK and US firms may partly be due to the time periods in which previous studies were conducted, as well as differences in the proxies used. The UK evidence is also fairly limited. Also, the use of accounting/company data to determine leasing policy does not capture the more practical considerations for leasing – again, the survey method provides the potential to extend the enquiry.

The present study was thus conducted against a backdrop of somewhat conflicting, limited and dated evidence of capital structure and leasing policy in the UK. A questionnaire survey was employed to obtain a wide range of information in relation to both the corporate financing and leasing decisions of UK quoted industrial companies. The information sought was the product of a comprehensive review and analysis of existing theory and prior evidence. The aim was to establish how levels of finance are determined, and to assess the relative importance of financial and non-financial factors in the decision to issue debt, equity and leasing. 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 result is arguably the most rigorous and extensive investigation of corporate financing and leasing decisions in the UK to date.

The remainder of this part of the thesis is organised as follows: Chapter 3 provides extensive literature coverage of capital structure, leasing policy and the relationship between lease and debt finance. Chapter 4 describes the method employed, including the selection of research method, sample selection and the development and administration of the survey instrument. Chapter 5 documents and provides an analysis of the results, and Chapter 6 offers a summary and conclusions.

Chapter 3: Corporate financing and leasing decisions: theory and prior evidence

The purpose of this chapter is to review the existing literature in relation to capital structure and leasing decisions. To provide a logical and coherent summary, both theory and prior evidence will be segregated into three main areas: capital structure (sections 3.1 to 3.4), leasing policy (sections 3.5 to 3.8) and the relationship between lease and debt finance (sections 3.9 to 3.12).

Capital structure

3.1: Capital structure theory

How firms determine their mix of debt and equity capital has confounded researchers for nearly half a century. Modigliani and Miller (1958) ignited the debate when they demonstrated that firm valuation is independent from financing choice under a set of perfect market assumptions[1] (proposition 1).

Investment opportunities designed to increase firm value should be evaluated using the weighted average cost of capital, i.e. the proportion of debt multiplied by the expected return on debt plus the proportion of equity multiplied by its expected return. A reduction in weighted average cost of capital would result in the acceptance of more investment opportunities and consequently lead to an increase in firm value. Equity shareholders demand a higher expected rate of return compared to debt holders since debt holders enjoy a prior claim. However, according to Modigliani and Miller, the weighted average cost of capital cannot simply be reduced by borrowing more and increasing the proportion of debt, because extra borrowing leads shareholders to demand a still higher expected rate of return (proposition 2). Consequently, the cost of equity capital increases by just enough to maintain the overall weighted average cost of capital.

[1] Perfect market assumptions:
1:Firms with the same degree of business risk are in homogenous risk class
2:Investors have homogenous expectations about future corporate earnings and their levels of riskiness
3:Securities are traded in perfect capital markets
4:Interest rate on debt is the risk-free rate
5:All cash flows are perpetuities

This is by no means the only view. Traditionalists propose that a moderate increase in debt finance will not increase the expected return of shareholders to the same degree. However, firms that borrow excessively will find that the expected return on equity increases faster than Modigliani and Miller predict. Consequently, the weighted average cost of capital declines at first with an increase in debt, then rises, the minimum point being the point of optimal capital structure (Brealey and Myers, 1996). There are two suggested reasons why moderate issues of debt may initially reduce the weighted average cost of capital. Firstly, shareholders don't notice or appreciate the financial risk created by moderate borrowing and initially accept a rate of return lower than they should. They eventually 'wake up' when borrowings become excessive. Secondly, imperfections may allow firms to borrow to provide a valuable service for shareholders, for example, firms may be able to borrow at lower interest rates. Firms require an unsatisfied clientele who are willing to accept an expected rate of return that does not fully compensate them for the business and financial risks they bear. However, according to Brealey and Myers (p463-464, 1996) and references therein "finding unsatisfied clienteles and designing exotic securities to meet their needs is a game that's fun to play but hard to win".

Despite this traditionalist point of view, the breadth of modern capital structure theory appears to derive from Modigliani and Miller's original proposition of capital structure irrelevance. In a perfect world, the value of an all equity firm would be the same as the value of an all debt firm:

Value of all equity firm = Value of an all debt firm

However, the world is not perfect as Modigliani and Miller were quick to realise when they modified their initial proposition to account for corporate taxes.

3.1.1 Interest tax shield of debt

Returns to debt holders, in the form of interest, are deducted from earnings before computing corporate tax liabilities. Returns to shareholders, in the form of dividends, are appropriated from earnings after corporate taxes have been paid. Therefore, the interest tax shield provides debt finance with a comparative advantage. A reduction in taxable income increases the return on equity to

shareholders. The interest tax shield reduces the cost of debt, so a greater return is available from the investments debt is used to finance. Modigliani and Miller thus proposed that the value of a firm using debt finance is equivalent to the firm value if all equity financed plus the present value of the interest tax shield.

Value of firm = Value of an all equity firm + PV of interest tax shield

At the extreme, Modigliani and Miller suggest a firm should be all debt financed to maximise the benefit derived from the interest tax shield. However, in the real world, the interest tax shield is only of benefit if a firm has income available to shield. As the magnitude of firms' taxable income varies so does the benefit derived from the interest tax shield on debt. It follows that firms with large amounts of taxable income and thus high marginal tax rates might be expected to benefit to a greater extent than firms with little taxable income or low marginal tax rates arising from taxable losses or other non-debt tax shields (DeAngelo and Masulis, 1980).

Miller (1977) further suggested that the tax benefit derived from debt depended not only on corporate taxes, but also on the personal taxes facing investors. He argued that the net tax saving from borrowing could be zero if personal taxes are considered. For investors, interest income is taxed at the personal level rather than at the corporate level. Equity income is taxed at the corporate level and may escape personal taxes if it is in the form of capital gains. Therefore, the effective personal tax rate on equity is usually less than the tax rate applying to interest income, thus reducing the relative tax advantage of debt. According to Miller, the use of debt should increase as long as the corporate tax rate exceeds the personal tax rate of investors. The optimal amount of debt is the point at which corporate and personal tax rates are equal. In reality, personal taxes vary across different types of investors, and this optimal amount of debt could be difficult to determine. However, firms may seek to attract certain types of investor, with an optimum amount of debt and thus level of taxation, designed to satisfy the needs of a particular shareholder base. For example, the fact interest on debt is taxed at the personal level would be irrelevant to non-tax paying investors such as pension funds.

3.1.2 Financial distress potential of debt

The theory discussed so far has ignored the financial distress potential of debt. Returns to debt holders, in the form of interest, are fixed payments made from income, in comparison with returns to shareholders, which are at corporate management's discretion. If fixed interest payments are not made, debt holders might exercise their option to force liquidation and a firm could experience bankruptcy. In this event, a firm could be faced not only with the direct cost of legal and court fees, but also indirect costs reflecting the difficulty of managing firm reorganisation. Even if interest payments are met and liquidation is kept at bay, the increase in the likelihood of finance distress can be expected to incur costs.

In the stakeholder theory of capital structure, Titman and Wessels (1988) suggest that the behaviour of various firm stakeholders is affected by financial distress potential, and certain firm-specific characteristics accentuate financial distress:

- Highly profitable firms are more likely to be able to meet interest payments when business fluctuates, compared to firms with low profitability.
- Firms with diverse business operations are more likely to withstand fluctuations in certain areas of business activity.
- Debt-holders are more likely to recover their investments in firms with standardised tangible assets that are easily liquidated.
- Firms providing quality products or products of a certain nature which require an element of after-sales service, are more likely to lose custom in the face of possible bankruptcy. If customers recognise that 'come-back' could be limited, they will be reluctant to pay high prices or even do business.
- Firms that are heavily reliant on specially trained and experienced employees, are more likely to succumb to demands for higher wage claims in order to maintain their workforce by compensating them for job insecurity.
- Firms, which require inputs from specialised suppliers, are more likely to succumb to increased input prices and decreased credit facilities.

Also, firms that are heavily reliant on debt provide less incentive for shareholders to contribute new capital as the shareholders would bear the cost of value-increasing projects while returns would be captured by debt holders (Myers, 1977).

3.1.3 Static trade-off theory of capital structure

Modigliani and Miller's model is thus expanded further to incorporate the financial distress costs of debt. In the traditional static trade-off theory of capital structure, each firm has an optimal debt ratio, at which the value of the interest tax shield from borrowing is balanced against the associated costs of bankruptcy or financial distress (Myers, 1984; Belkaoui, 1999).

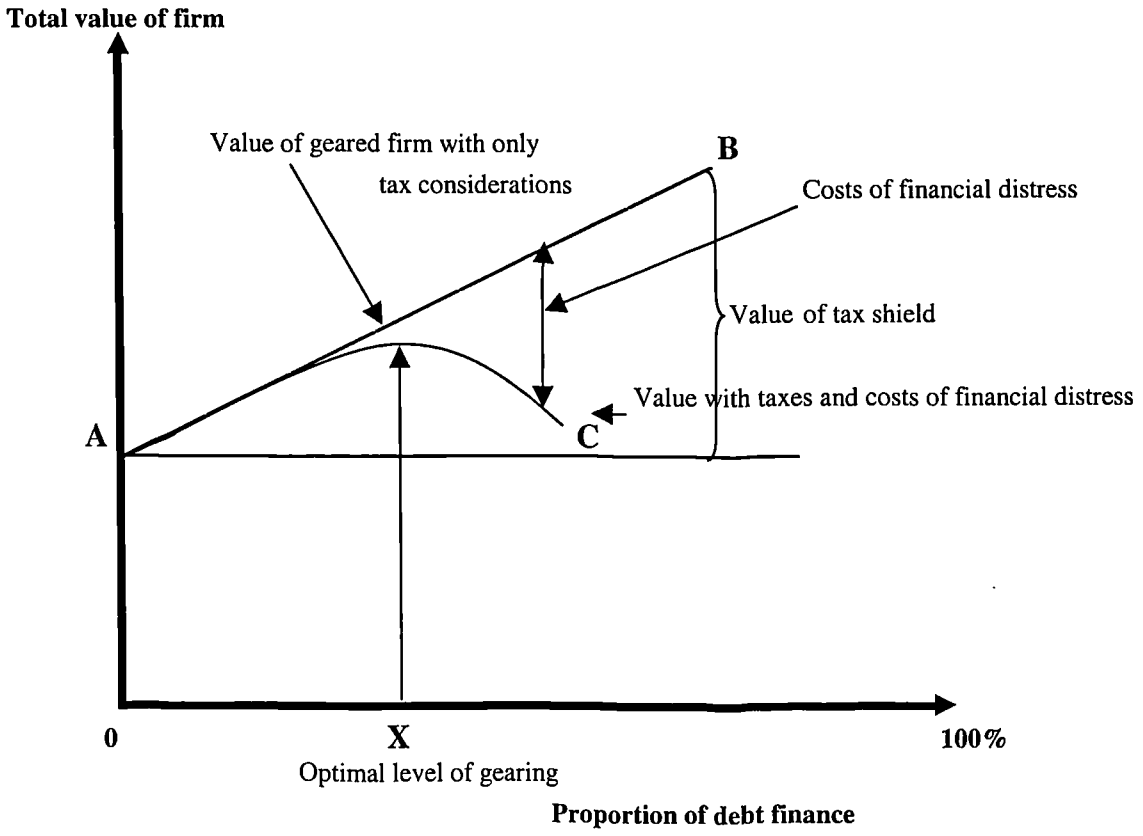
Value of firm = Value of an all equity firm + PV of interest tax shield - PV of costs of financial distress

The trade-off between the interest tax shield benefit and the costs of financial distress is illustrated in Figure 3.1. The straight line (AB) shows the value of a geared firm with increased levels of debt but without the increased costs of financial distress (i.e. firm value increases in line with debt as a result of interest tax shield). The curved line (AC) shows the value of the firm also including the costs of financial distress. Up to the point X_1 financial distress is immaterial and firm value is increased with the use of debt by the interest tax shield. After X_1 the costs of financial distress arising from increased debt are larger than the increase in benefit from the interest tax shield. Firm value is thus maximised at X, the optimal debt ratio.

It follows that the curved line representing firm value with financial distress costs will vary according to individual financial distress potential. In firms with characteristics enhancing financial distress, X, the point of optimal capital structure would be lower. The opposite would be true for firms with characteristics mitigating financial distress. The degree of benefit derived from interest tax shields could also alter the shape of the diagonal straight line in Figure 3.1. This explains why optimal debt ratios would deviate from firm to firm. Moreover, in individual firms the characteristics determining financial distress and the degree of benefit obtained from the interest tax shield are unlikely to remain static in a dynamic business environment. Therefore, individual optimal debt ratios could deviate over time.

This provides one explanation as to why the actual debt ratios observed for a particular firm might deviate over time. However actual deviations may also reflect deviations *from* optimal capital structure as well as *in* optimal capital structure. In

Figure 3.1: Static trade-off theory of capital structure



Source: Samuels, J.M., Wilkes, F.M., and Brayshaw, R.E.,'Management of Company Finance' Fifth Edition, Chapman and Hall, 1990, p453

the static trade-off theory, a firm is supposed to substitute debt for equity, or equity for debt, until the value of the firm is maximised. According to Myers (1984), there must be costs and time lags involved in adjusting to the optimal capital structure when events cause a firm to deviate. In this case, actual deviations in debt ratios over time would reflect deviations *from* optimal capital structure. However, there does not appear to be any theoretical suggestion that adjustment costs are a major concern. Consequently, under the static trade-off theory, actual debt ratios are presumed to be optimal, and therefore actual deviations over time correspond only to changes *in* optimal capital structure.

The theory discussed so far is based on the assumption of maximising firm value. However, the potential for conflicts of interest arises when different parties with their own vested interest become involved in a firm. Two types of conflict between the providers of equity finance and managers, and between the providers of equity finance and debt finance have been identified, and translated into further costs and benefits of issuing debt.

3.1.4 Conflict between shareholders and managers: Agency benefits to debt

The managers of a firm are in the position to decide how resources should be best appropriated to maximise firm value/success. However, if managers do not themselves contribute a significant amount of equity finance (i.e. they consider their personal share-holding to be immaterial) they may be less concerned with maximising shareholder wealth, and more interested in appropriating resources to their own personal benefit/satisfaction. This could take the form of corporate travel, plush office space and entertaining on expenses, bonus or salary increases, for example.

Jensen and Meckling (1976) suggest that the larger the fraction of equity provided by managers, the more efficient with resources they become, and the more they concentrate their energies on enhancing firm value. They suggest that the use of debt provides a vehicle for increasing managers' share-holdings. If the absolute investment by managers is held constant, an increase in the fraction of the firm financed by debt will increase the managers' share of equity and mitigate the loss from the conflicts of interest between managers and shareholders. Jensen (1986)

further suggests that since debt commits the firm to payout cash in interest, the amount of 'free' cash available to managers is reduced, further curtailing the allocation of resources to private benefit. Grossman and Hart (1982) also indicate that, as well as causing managers to consume fewer perks, the use of debt creates an incentive for them to 'work harder and make better investment decisions'. The reason for this is to reduce the possibility of bankruptcy which could personally cost managers in terms of their loss of control and reputation.

However, the degree of agency benefit to be derived from issuing debt is far from certain. Debt is not the only vehicle for mitigating conflicts of interest between managers and shareholders. The personal stake or share-holding of managers in a firm can be enhanced through various compensation schemes tailored to maximise shareholder objectives. Also, proponents of this agency benefit to debt argument appear to suggest that debt is chosen with curtailing the allocation of resources to personal benefit specifically in mind. Yet, the level of managers who are most likely to be in a position to seriously exploit resources are the same managers who take the decision to issue debt. It is unlikely that they would be issuing debt to control their own actions. Further, in light of the tendency to flatten organisational structures in recent years, the resources available to lower levels of management could be restricted, and then visibly controlled via a budgeting process.

3.1.5 Conflict between shareholders and managers: Agency benefits or costs to debt?

Conflicts of interest between providers of equity finance and managers have been identified in the context of operating decisions. Harris and Raviv (1990a) suggest that because of managers' personal loss of control and reputation, they could be reluctant to cease operations when liquidation would be preferable to shareholders. They propose that using debt gives debt providers the option to force liquidation in the event of default, which would also *benefit* shareholders if liquidation was the best strategy. However, they further note that forcing liquidation in itself incurs *costs* relating to the production of information necessary for decisions concerning future prospects. These additional costs would not be of benefit to shareholders.

In this context, the use of debt appears to provide a benefit if liquidation is the best option and the costs of liquidation are less than the costs of continued operations. However, personal agendas aside, the managers of a firm are in the best position to judge if liquidation really is the best option. As debt providers will be anxious to recover their investment, the welfare of shareholders is a residual issue. Furthermore, the use of debt and the commitment to fixed interest payments enhances the possibility of liquidation in the first instance. Again, it is the managers who decide to issue debt, whose reputations are primarily on the line. It seems highly unlikely that they would view issuing debt as providing the benefit of instigating liquidation when they themselves would decline to do so.

Stulz (1990) also suggests that conflict may arise when managers want to invest all available funds, and are reluctant to payout cash to investors. The use of debt reduces free cash flow and prevents over investment, another agency *benefit* to debt. However, debt payments may exhaust more than 'free cash', reducing funds available for profitable investments, implying a *cost* to using debt.

3.1.6 Conflict between shareholders and debt holders: Agency costs to debt

Jensen and Meckling suggest that the use of debt finance provides managers acting on behalf of shareholders with an incentive to invest sub-optimally in very risky projects. If an investment yields large returns, shareholders capture the majority of the gain as returns to debt holders are fixed. However, if the investment fails, debt holders bear the consequences, as a result of shareholders' limited liability. If debt holders anticipate this behaviour and incorporate restrictive covenants in debt contracts in order to prevent it, the return on investment financed by debt is decreased. Restrictive covenants can, for example, include interest coverage requirements or prohibitions against investing in new unrelated lines of business.

However, restrictive covenants would not appear to be an issue if managers are only interested in pursuing relatively safe projects out of adverse reputational considerations. Also the conflict of interest depends on managers having the opportunity to invest in risky projects. This could be the case in firms with growth opportunities to expand in new directions, but less likely in mature industries abundant with cash flows. Furthermore, the issue of convertible debt, where debt-

holders have the option to convert to shareholders, could be used to reduce the need for restrictive covenants.

In summary, benefits of issuing debt appear to arise mainly from conflicts of interest between shareholders and managers, although issuing debt may incur costs when conflict concerns operating decisions. Costs arise when conflicts of interest between shareholders and debt holders cause debt holders to impose restrictions. Jensen and Meckling propose that an optimal capital structure can be obtained by trading-off these agency costs and benefits to debt.

3.1.7 Extended static trade-off theory

Belkaoui (1999) notes that an extended trade-off, therefore, appears to determine optimal capital structure:

Value of firm =

Value of an all equity firm	**+ PV of interest tax shield**	**- PV of costs of financial distress**	**- PV of agency costs (reduced by PV agency benefits)**

In short, the extended static trade-off theory suggests managers should weigh up all these benefits and costs of issuing debt in the context of their individual firms, and they should adopt a debt level at which their firm value is maximised. This implies that they operate with a target debt-to-equity ratio, and maintaining targets is of paramount importance when financing investments.

Irrespective of any empirical evidence, does the static trade-off theory in itself really provide all the answers? In order to maximise firm value, managers must firstly be able to quantify all the benefits and costs, to their individual firm, of issuing debt. Although the benefit from interest tax shields may be quantifiable, how do managers formally value some of the far reaching potential costs of financial distress and how do they quantify the conflicting agency costs and benefits associated with debt? In order to continue to maximise firm value, managers must also be able to recognise if and when the benefits and costs of debt change. The continuous maximisation of firm value appears to suggest the need to review and revise target debt-to-equity ratios, but the theory provides no indication of the frequency with which this should occur. The mere reference to a static trade-off

appears misleading when maximising firm valuation long-term infers more of a dynamic trade-off. Myers (1984) notes that he finds it hard to understand the observed diversity of capital structures across firms that seem similar in a static trade-off framework. However, it is easier to understand if differences arise in how firms view or quantify the different costs and benefits of issuing debt, and in how dynamically they respond to changes in them.

3.1.8 Pecking order theory of capital structure: the role of asymmetric information

Myers (1984) contrasts the static trade-off theory with what he regards as a competing theory of capital structure based on a hierarchy or pecking order of financing sources. In the pecking order theory, firms prefer to use internal finance. They relate profit and growth opportunities to their long-term target dividend payout ratio, in order to minimise the need for external funds. Investment opportunities and dividend payout thus dictate the amount of external finance. When external finance is required, firms issue the safest security first, namely debt. They would then possibly consider hybrid securities such as convertible debt, with equity only considered as a last resort. In this situation, a firm's debt-to-equity ratio merely reflects its cumulative requirement for debt finance at a point in time, and thus fluctuates with changes in requirements over time.

Although Myers (1984) states his claim on the 'pecking order' term, the basis of the theory appears to originate from a field survey of financing practices by Donaldson in 1961. However, Donaldson merely documented what appeared to happen in financing decisions in the absence of any theoretical foundation of why firms primarily prefer internal finance and then prefer debt to equity. Myers (1984) notes that avoiding issue costs, which increase from internal finance to debt to equity, could provide an element of reasoning. However, he further notes that issue costs do not significantly feature when balancing the costs and benefits of issuing debt in the static trade-off theory. He suggests that the pecking order theory becomes more credible when based on an argument of asymmetric information.

Firm managers are assumed to possess private information about the characteristics of a firm's return stream or investment opportunities. Capital structure choice is said to signal this insider information to outside investors. Myers and Majluf (1984)

show that if investors are less well informed about the value of a firm's assets, then equity may be mispriced by the market. If equity is under-priced and new equity is issued to finance new projects, the new investors capture more than the net present value of the new projects to the detriment of existing shareholders. This situation may lead managers to reject projects with positive net present value and result in problems of under-investment. It is suggested that under-investment would be avoided if the firm can finance new projects using a security that is not so severely under-valued by the market, namely internal funds or risk-less debt.

If managers pledge their allegiance to existing shareholders, it follows that at times when equity is over-priced, they would be willing to make new equity issues at a detriment to potential new investors. However, Myers and Majluf suggest that potential investors anticipate managers' behaviour and assume it to always be to their detriment. Consequently, they take an equity issue to signal that shares are over priced and will rationally adjust the price they are willing to pay accordingly. The only time when investors would not associate an equity issue with over pricing would be if they recognised that a firm had issued so much debt that to issue any more would be too costly. It also follows that issues of debt signal that managers perceive shares to be under-priced, sending a favourable signal to investors. Therefore, irrespective of whether managers believe equity to be under- or over-priced, they will prefer to issue debt for as long as they can. The anticipation of investors thus appears to force firms to follow the pecking order.

However, investors may be persuaded not to associate an equity issue purely with over pricing if managers can convey information in an alternative way. Korajczyk et al. (1990) argue that the problem is less severe after information releases such as annual reports and earning announcements when equity should be more accurately priced. Also, the problem of under-investment would be less severe for firms experiencing fewer growth opportunities.

It is further suggested that issues of debt and equity are not the only means by which inside information is signalled to outside investors. Baskin (1989) notes that dividend payout plays a signalling role. This provides an additional incentive for

firms to relate their need for finance to maintaining dividend payout to avoid unfavourable market reaction.

In the pecking order theory, the question still arises at which point is debt no longer an option? Myers (1984) appears to suggest that in the original pecking order theory, debt is constrained externally. Does this mean that firms only issue equity when debt holders say they have had enough? Perhaps additional debt is available but the cost in the form of interest would far exceed any return on investments the debt was used to finance? Perhaps firms themselves decide when enough is enough? In his reconciliation of theory and evidence Myers suggests a modified pecking order theory in which firms restrain their use of debt to avoid financial distress and maintain reserve borrowing power. The maintenance of reserve borrowing power doesn't appear to coincide with the static trade-off suggestion that firms operate at their optimal debt levels; whereas the avoidance of financial distress is all too familiar. However, it is helpful to review the empirical evidence in order to fully evaluate the extent to which these two strands of theory might be entangled.

3.1.9 Corporate control considerations

The mix of debt and equity has corporate control implications when equity carries voting rights and debt does not. Corporate control considerations became associated with capital structure theory in response to the growth in take-over activity in the late 1980's .

The value of a firm is dependent on the outcome of a take-over contest when existing management and a rival are assumed to have different abilities. However, it is not only superior ability that decides the outcome, it is influenced by the individual share-holding of both parties. If the management's share in the firm is very low, a rival may succeed irrespective of ability. If the management's share is very high, they may remain in control irrespective of ability. Both outcomes potentially could adversely affect firm value if the party with lower managerial ability succeeds. However, if the share held by both parties is, in itself, insufficient to determine the outcome, then the actual outcome must be down to ability, in which case firm value is either maintained or increased.

Harris and Raviv (1988) propose that debt can be used to repurchase equity from passive investors in order to change the fraction of equity owned by existing management. Also, by issuing debt, the risk to shareholders increases and the price of equity declines, allowing management to afford a larger fraction of the equity. They propose that, in the event of potential take-over, management will thus issue debt to enhance their chances of staying in control

However, management's control can also decrease with the use of debt, in the form of bankruptcy, increased monitoring by creditors and less available cash flow. Therefore, management would not be motivated to take on excessive debt, rather the minimum amount possible to ward off a rival. However, this assumes existing management are interested only in maintaining control and warding off rivals. Harris and Raviv (1988) note that the capital gain on existing management's shares may far outweigh any benefit derived from retaining control. They, therefore, suggest that existing management decide which outcome would maximise their personal pay-off, and influence the decision through their share-holding which can be altered through the use of debt.

In short, if existing management decides the take-over is optimal to them, they will not issue debt. If retaining control is optimal they will issue debt. Although Harris and Raviv establish that control is not existing management's only interest, the link between existing management's capital gains and firm value appears unexplained. The fact that existing management might be willing to 'cut and run' i.e. they decide the take-over is optimal, implies that they perceive the gain from selling their shares to the rival, to outweigh their loss of control and loss of future share value, the product of their own managerial abilities. Therefore, unless the rival offer is exceptional, it could imply that they themselves doubt their own abilities. It follows that the opposite could be true when existing management fights for control. If this were the situation, superior managerial ability may be reflected in the outcome of take-overs determined by the size of respective share-holdings with no adverse effect on firm value.

Harris and Raviv(1988) note that in take-overs determined purely by ability and not by respective share-holdings, some debt is generally required. As the take-over is not the result of a majority share-holding by the rival, existing management could be reluctant to relinquish their share. They could issue debt to increase the fraction of their holding. However, if existing management had superior ability, they could perceive that other investors would be aware of this, and decide that only a moderate amount of debt would be required to retain control. If a rival takes control on the basis of ability, existing management might not have been able to issue enough debt to guarantee their control. Perhaps the firm was already heavily debt financed, which could also provide a reason for other investors to question existing management's capabilities.

Harris and Raviv conclude that, on average, take-over targets will increase their debt levels and that leverage is negatively related to take-over success. They suggest that firms in which a take-over has failed because the rival could not obtain a large enough share will have higher debt levels than firms in which a take-over has failed or succeeded purely of the basis of managerial ability. In this case, the firm is likely to have lower debt levels if the take-over failed and higher debt levels if it succeeded.

Stulz (1988) and Israel (1991) arrive at similar conclusions to Harris and Raviv (1988). However, Stulz assumes that existing management will not tender their shares in any take-over attempt. If they will not tender their shares, a rival must purchase 50% of shares from passive investors assuming that the passive investors vote for the existing management. The greater the issue of debt, the greater the management share, and the larger the fraction of the passive investors' shares that must be acquired by the rival. Consequently, the more the rival has to pay. Thus the premium paid to the shareholders of a firm targeted for take-over increases with the firm's debt levels, even though the likelihood of take-over decreases.

Harris and Raviv (1991) note that although corporate control considerations influence capital structure, it is only a short-term influence in response to the threat of imminent take-overs. They advocate that it has 'nothing to say about the long run capital structure of firms'. This could be true in most cases, but what about firms

that are constantly in the lime light for being under threat of take-over? Even if corporate control does impact only on capital structure in the short-term, it still has implications. If firms use debt to react to imminent take-overs they won't always be at their optimal debt ratio under the static trade-off theory. This could further account for observed differences in firms classed as similar under the static trade-off framework?

3.1.10 Corporate strategy

Recently, capital structure theory has related the mix of debt and equity to corporate strategy in terms of competition, management/control and growth/expansion. However, corporate strategy does not appear to offer an entirely new explanation of how firms determine their levels of debt and equity. It appears to characterise environments in which certain benefits/costs from issuing debt are enhanced/reduced.

Competitive strategy

The competitive strategy adopted by a firm is said to determine the nature of assets employed, which in turn influences debt levels (Jordon, Lowe and Taylor, 1998). Three alternative competitive strategies are distinguished. In firms that take a cost leadership approach, competition is in terms of offering widely available products/services at low cost. If products/services are widely available or standardised, the assets required to produce or sell them are likely to be *tangible* and *flexible*. In firms that take a product innovation approach, competition is in terms of offering unique products/services with less emphasis on price. The development, production and sale of unique products/services might involve significant research and is likely to be available on a smaller scale. Therefore, the assets required are likely to be firm-specific, more *intangible* and less easily redeployed. Competition in terms of product differentiation is a strategy in between the other two. Products/services offered are differentiated from similar alternatives. As products/services are differentiated, certain features may be firm specific, and thus assets may be more inflexible and intangible compared to those in firms competing entirely on the basis of price. However, as similar alternatives exist, assets may be

more flexible and tangible compared to those in firms competing on the basis of product uniqueness.

It is suggested that firms with intangible inflexible assets have an increased potential for financial distress and a decrease in their ability to borrow due to lack of collateral. Therefore, firms with a product innovation competitive strategy should have the lowest proportion of debt, followed by firms adopting product differentiation strategies. Firms with cost leadership strategies should have the highest proportion of debt.

Management/control strategy

The management or corporate control strategy adopted by firms is said to be related to debt levels (Belkaoui, 1999). There is said to be more opportunity for management to procure personal benefits at a cost to the firm when control is centralised, i.e. concentrated with certain individuals rather than delegated across a range of individuals responsible for managing divisions or segments of the firm. Consequently, the agency costs from conflicts of interest between shareholders and management would be higher, increasing the cost of debt. One of the aims of decentralisation is to reduce opportunism and thus the agency costs and subsequently the cost of debt would be less. On this basis, centrally controlled firms should have lower debt levels than divisionalised firms. If the aim is to reduce opportunism by divisionalisation, then as well as benefiting from lower agency costs of debt, debt also provides the benefit of limiting the availability of free cash flow, which further reduces opportunism.

Growth/expansion strategy

The growth/expansion strategy adopted is said to impact on the operating risk of a firm, which in turn influences debt levels (Belkaoui, 1999). If a firm expands by spreading its business activities across different markets, when adopting a strategy of unrelated diversification, operating risk is reduced. The company has the potential to increase activity in one market to compensate for a decline in another. A firm is also likely to hold a wider spectrum of re-deployable assets if it expands through unrelated diversification.

If a firm concentrates on its existing business activity, or expands by integrating the activities of direct suppliers/customers, a decline in the market could have a serious impact. When adopting these strategies, companies are said to 'have all their eggs in one basket and are merely widening the basket in which they are kept'. In which case, operating risk would be high.

Expansion in terms of related diversification (i.e. spreading business across a range of related markets) is said to be somewhere in between. Thus, in terms of changes to market demand, the highest operating risk is said to be associated with no expansion strategy, followed by vertical integration, then related diversification, with unrelated diversification being associated with the lowest operating risk.

However, it is pertinent to note that integration or related diversification strategies could be considered less risky in terms of individual market share, as an element of current expertise and knowledge would apply. Further, there is an element of risk diversifying into an unrelated market of which a firm has no experience. Under these terms, unrelated diversification might be said to be associated with the highest operating risk.

On balance, the operating risk associated with changes in market demand are probably more severe, as firms have the potential to purchase expertise and knowledge in the unrelated areas they wish to diversify into. In terms of relative debt levels, it is suggested that the lower the operating risk and the more re-deployable the assets, the lower the potential for financial distress and thus the higher the potential for debt. On this basis, companies experiencing unrelated diversification would be expected to have higher debt levels than those experiencing no expansion or expansion through integration.

However, the expansion strategy adopted is also thought to influence debt levels through the need to co-ordinate and process information. It is suggested that integrating the activities of suppliers/customers, or related divisions, requires more co-ordination and information processing, which in turn requires more financing. Unrelated diversification requires less co-ordination of divisions and thus less financing (Belkaoui, 1999). On this basis, companies experiencing unrelated diversification would be expected to have lower debt levels than those experiencing expansion through integration.

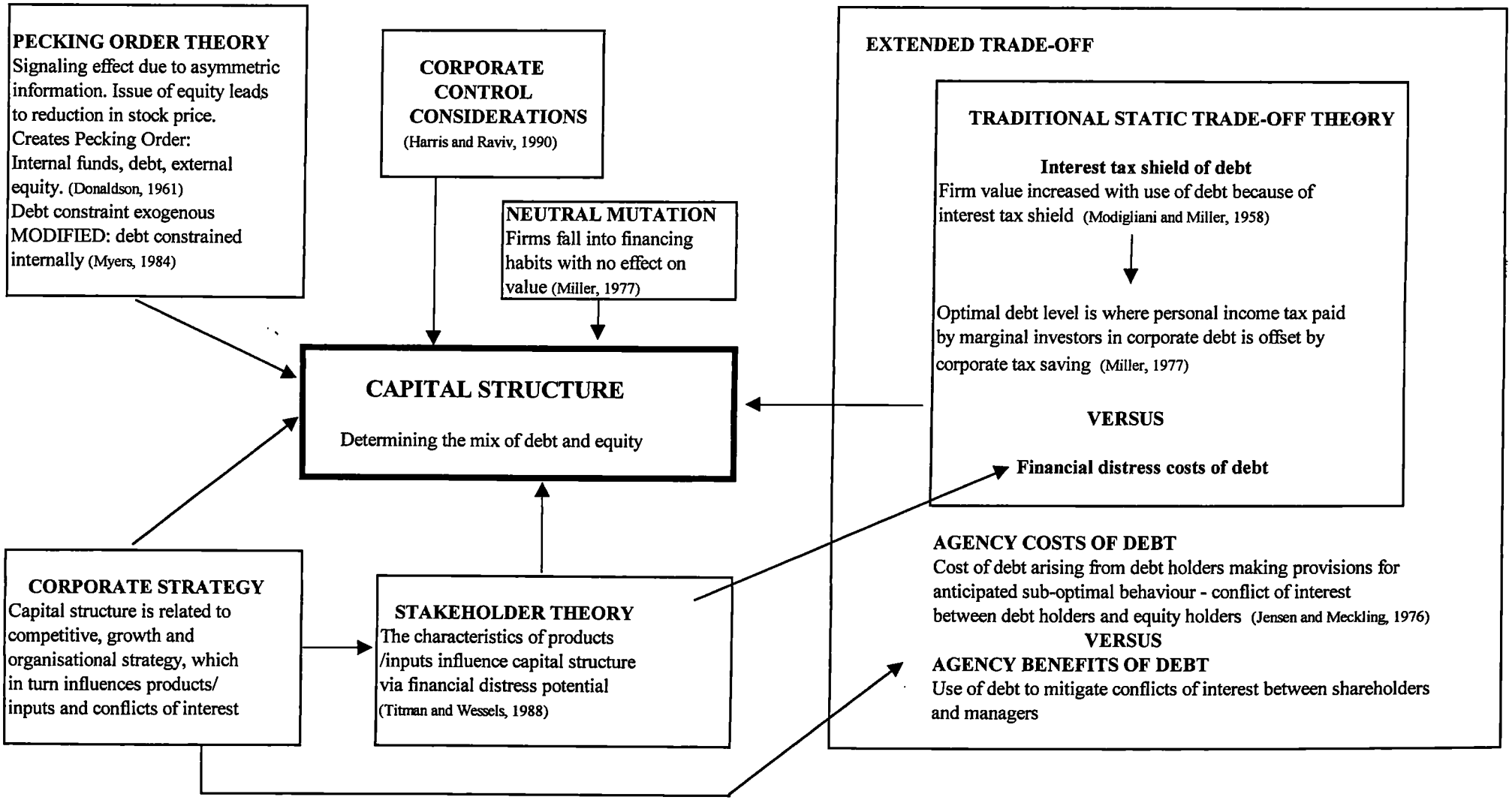
In summary, two aspects of corporate strategy appear to influence the potential financial distress costs of debt. Competitive strategy through the nature of assets employed and growth/expansion strategy through the degree of operating risk. However, the growth/expansion strategy also impacts on the degree of finance required to co-ordinate and process information. The management/control strategy influences the agency cost of debt arising from conflicts between shareholders and managers. Theory thus predicts that firms competing in terms of cost leadership, managed divisionally, and expanding through unrelated diversification would have the highest debt levels. Firms competing by product uniqueness, managed centrally, and with no expansion strategy would, ceteris paribus, have the lowest debt levels. However, predictions only remain valid if the individual strategies adopted all aspire to similar levels of debt finance. There is no indication of which strategy takes priority, or how much debt, for example, a firm competing in terms of product uniqueness and expanding by unrelated diversification, is likely to take?

3.1.11 Summary of capital structure theory

The various elements to capital structure theory are summarised in Figure 3.2. At the outset, firms appear to either adopt a level of optimum finance which dictates dividend payout and investment levels (static trade-off theory) or they adopt a level of dividend payout and investment which consequently dictates the level of finance (pecking order theory).

In the static trade-off theory, the various costs and benefits of issuing debt are balanced, in the pecking order, equity issues are avoided by issuing debt for as long as possible. However, equity issues are avoided in order to prevent the signalling of information to investors resulting in a decrease in firm value. Unless debt holders restrict firms' access to additional debt finance, equity is issued only when issuing debt would result in a greater decrease in firm value. To arrive at this decision, balancing the benefits and costs of issuing additional debt appears to be necessary. Therefore, the interest tax shield benefit, financial distress costs, and agency benefits and costs of debt may not necessarily be exclusive to the static trade-off.

Figure 3.2: A Summary of capital structure theory



The stakeholder, corporate control and strategy theories do not appear to offer a *process* by which the mix of debt and equity is chosen. Rather the stakeholder theory identifies how the characteristics of a firm's inputs/products affect its financial distress potential, and strategy theory identifies environments in which financial distress and agency costs are enhanced/mitigated. These situations, along with other characteristics/environments identified as promoting high or low levels of debt, are summarised in Table 3.1

A firm with high and low levels of debt might be expected to exhibit the characteristics listed in the final two columns of Table 3.1 respectively. There appears to be some theoretical conflict in terms of profitability, investment opportunities, and the level of debt. Under the pecking order theory, firms would have higher debt levels when internal equity (i.e. profitability/available cash flow) was insufficient and investment opportunities were extensive. It follows the opposite would be true for firms with lower levels of debt. However, the financial distress potential is greater for firms with low profitability in terms of their ability to meet interest payments. On this basis, high profitability would be associated with high levels of debt. Further, the cost of debt holders imposing restrictive covenants is greater for firms facing extensive investment opportunities. On this basis, extensive investment opportunities would be associated with low levels of debt. A further conflict arises in terms of a firm's growth/ expansion strategy. An unrelated diversification growth strategy suggests lower operating risk, a high debt level characteristic. However, this strategy also requires less co-ordination and processing of information compared to other growth strategies, reducing the need for finance.

Capital structure theory does not yet claim to provide all the answers. The benefits/costs of issuing debt are unlikely to be given equal weight, and weightings could well differ across firms. In which case, it would be difficult to predetermine the mix of debt and equity in a firm experiencing both debt enhancing and debt mitigating characteristics – it is a complex, multidimensional decision. However, the theory presented in this chapter does provide a framework within which financing decisions can be evaluated.

Table 3.1: Characteristics/environments promoting high/low levels of debt

Theoretical basis	Cost/benefit to issuing debt	Characteristic/Environment Promoting:	
		High levels of debt	**Low levels of debt**
Interest rates	costs	Low interest rates	High interest rates
Interest tax shield	benefit	High marginal tax rate	Low marginal tax rate
Financial distress potential	costs		
Ability to meet interest payments		Low operating risk High profitability	High operating risk Low profitability
In the event of liquidation		Large proportion of standardised tangible assets, easily redeployed	Few firm-specific intangible, inflexible assets
Action by stakeholders in response to potential financial distress:			
Loss of customers resulting in lower prices charged		Provision of non-durable products and services. Less specialised products whose quality is easily assessed.	Provision of products whose quality is important but unobservable, products which require future servicing.
Loss of workforce resulting in higher wage claims		Non-specialised work force	Specially trained and experienced employees
Loss of supplier confidence resulting in higher input prices and reduced credit facilities		Inputs in general supply	Inputs specially supplied
Agency benefits/costs			
Conflict between shareholders and managers in maximising firm value	benefit	Management own a low shareholding No management compensation schemes	Management own a high shareholding Management compensation schemes
Imposition by debtholders of restrictive covenants	costs	Risk averse managers Mature firms with abundant cash flows. Limited opportunities to invest in risky projects	Risk taking managers Young firms with limited cash flows. Growth opportunities to expand in new directions
Corporate control considerations:	benefit	Companies attracting take-over bids	Companies *not* attracting take-over bids or managers anxious for possible take-over to succeed.
Pecking order theory: Requirement for debt to meet dividend pay-out and investment needs	requirement	Extensive opportunities to invest in projects which yield a higher return than interest on debt Insufficient internal equity	Limited opportunities for investment Sufficient internal equity
Competitive strategy:	based on costs	Cost leadership strategy	Product innovation strategy
Management/control strategy:	based on benefit	Divisionalised firms	Centrally controlled firms
Growth/expansion strategy:			
In terms of operating risk	based on costs	Unrelated diversification	No expansion/growth
In terms of co-ordination and processing of information	requirement	Integration	Unrelated diversification

The only other proposition is an idea put forward by Miller (1977) of neutral mutation. He suggested that firms fall into financing patterns or habits, which have no material effect on firm value. Habits cause managers to feel secure and if no serious damage arises as a result, they don't appear to be questioned. However if financing decisions are a product of individual habits, then evaluating them provides no logical purpose. As Myers (1984) concluded, the idea of neutral mutation isn't an option in determining corporate capital structure, when it makes the game of research much too hard to play!

Capital structure: prior evidence

Prior researchers have adopted two alternative approaches in their quest for empirical evidence on the determinants of capital structure. The intentions and perceptions of corporate managers in capital structure decisions have been investigated by survey. However, the majority of studies use accounting/company data and observe capital structure choices to infer the determinants of capital structure. There appears to be a distinct lack of experimental research in which the determinants of capital structure might be observed by requesting participants to make a financing choice.

In the remainder of this section, studies adopting a survey-based approach are presented first, prior to studies based on the analysis of accounting data. The evidence obtained from each study is further classified according to the theoretical aspect of capital structure under investigation, using the framework presented in Section 3.1. Where applicable, studies are grouped on the basis of their country of origin to enable any international differences to be highlighted.

3.2: Capital structure survey-based prior research

The majority of prior research adopting a survey approach is based in the US. Donaldson's (1961) early interview-based study of the financing practices of a sample of 25 large US corporations initiated the development of the pecking order theory of capital structure. Donaldson found managers to strongly favour internal funds, and to only consider external funds when the need was unavoidable. Cutting dividends was only a consideration in response to extreme financial distress. Although equity issues were not completely ruled out, they were notably scarce. The existence of an optimal capital structure did not appear to arise.

The absence of an optimal debt level is further substantiated in an international study[2] by Stonehill et al. (1973). Executives were found to attach considerable importance to the statement 'we do not try to maintain any particular debt ratio on a year to year ad hoc basis, but rather take advantage of favourable financing opportunities to issue either debt or equity as they occur'. Unfortunately, these comments are equally contradictory to the pecking order framework.

[2] Based on companies in US, Japan, France, Norway and Holland

The financing policies and practices in large US corporations were further investigated by Scott and Johnson (1982) in a questionnaire based survey. Completed responses were received from 212 of the 1979 Fortune 1000 firms, a response rate of approximately 21%. Questions were designed to explore how financial gearing was measured, who was influential in formulating target financial structure ratios, and whether firms conform to the concepts of optimal capital structure and corporate debt capacity. A summary of the questions asked in relation to these issues and the responses provided is shown in Table 3.2.

From these responses, Scott and Johnson concluded that target gearing ratios, set by management, were used in making financing decisions. This is consistent with the static trade-off theory of capital structure. They also highlighted that respondents appear to accept the concept of optimal capital structure. However, the fact that firms believe that an appropriate amount of debt will lower the cost of capital but an excessive amount will increase costs, is open to interpretation. The situation described mirrors the traditionalist view presented at the beginning of the previous section. However, respondents might also expect capital costs to decrease initially with the use of debt as a result of the interest tax shield. When debt becomes excessive, capital costs rise as the cost of financial distress outweighs any tax benefit. It would, thus, have been useful if Scott and Johnson had further investigated the reasons behind respondents' views. They further concluded that respondents appeared to accept the concept of debt capacity. Although they obtained information concerning individuals actual target proportions of debt, there is no explanation of how management arrived at these targets. However, the mere fact that management appeared to predominantly constrain debt capacity is contradictory to the pecking order framework in which debt is externally constrained.

Pinegar and Wilbricht (1989) claimed to deal more extensively with obtaining evidence in relation to capital structure theory in their questionnaire survey. They examined the extent to which capital structure models were adopted in the financing decisions made by 176 of the Fortune 500 firms for 1986 (response rate of 35.2%).

Table 3.2: A summary of the issues explored, questions asked and responses provided in Scott and Johnson's (1982) survey

Issues explored	Abbreviated question	Response
How is financial gearing measured	Rank 9 alternative balance sheet and profit and loss ratios in order of importance	80% used B/S and P/L measures Most important: Long term debt to total capital ratio used by 76%.
	Are fixed lease payments included as a financing charge?	64% responded Yes
	Are book or market values used?	92% responded Book values
Existence of target gearing ratios	Is some measure of gearing used as a constraint on the mix of debt and equity employed?	89% responded Yes
Influences in setting target gearing ratios	Rank in order of importance: Own management Investment banks Commercial banks Trade creditors Outside analysts Ratios of industry competitors	 87% ranked most important 37% ranked second important some impact minimal impact minimal impact some impact
	Is an industry norm ever adopted in financing decisions?	53% responded Yes
Optimal capital structure (trade-off theory or traditionalist view?)	Does firm believe there is a functional relationship between its capital costs and the amount of debt utilised in its financial structure?	92% responded Yes
	Does firm believe that the use of a 'proper' amount of debt in its capitalisation (as opposed to none or too much) will result in a lower cost of capital to the corporation.	92% responded Yes
	Does firm believe that the use of an excessive amount of debt will eventually increasethe cost of debt faced by company?	97% responded Yes
	Does firm believe that using an excessive amount of debt will eventually adversely affect market price of common stock?	90% responded Yes
Debt levels and corporate debt capacity	What is the target proportion of long-term debt in your firm's capital structure?	64% of respondents indicated between 26-40% Most popular range 26-30%
	Does the firm believe there is some maximum amount of debt finance that should not be surpassed?	87% responded Yes
	How is debt capacity defined?	Management determined limit of leverage ratio most popular, also maintaining a bond rating
	Does the financial theory concept of 'systematic risk' measured by beta coefficients' ever effect your financial structure policy?	17% responded Yes

A summary of the questions asked in relation to theoretical issues and the responses provided is shown in Table 3.3.

In contrast to Scott and Johnson, Pinegar and Wilbricht's findings appear to lend more support to the pecking order framework. Following a hierarchy of sources appeared more favourable among respondents compared to maintaining target capital structures. The preference for internal equity over debt and debt over common equity is further consistent with the pecking order theory. However, the preference for straight preferred stock over convertible preferred stock is contradictory when convertible preferred stock is considered less risky.

The pecking order is said to arise out of the existence of asymmetrical information. Pinegar and Wilbricht observed that many of their respondents appeared to disagree with the notion of market efficiency, at least for some of the time. However, further statistical tests failed to establish if respondents' view of market efficiency had any impact on their financing choice. The fact that respondents indicated that the financing decision is the most flexible in comparison to investment and dividend decisions contradicts the static trade-off theory, and adds further credence to the pecking order theory. Also, respondents were found to place more importance on the projected cash flow or earnings and the risk of assets to be financed, rather than benefits/costs of issuing debt. This could further indicate that investment dictates the level of finance. Although corporate tax rates were found to be of some importance, the costs of bankruptcy appeared to be the least significant aspect to financing decisions.

Norton (1989) also used a questionnaire survey to test the assumptions and hypotheses arising under the static trade-off, pecking order and agency theories of capital structure. His findings are based on completed responses by 98 of the 1984 Fortune 500 firms (response rate of 21% based on the 468 firms mailed). Although Norton's response rate is comparable with that of Scott and Johnson's, the total number of respondents is less than half. Further, Norton's response rate and total number of respondents are both significantly less than achieved by Pinegar and Wilbricht, whose survey was conducted in a similar time period.

Table 3.3: A summary of the theory explored, questions asked and responses provided in Pinegar and Wilbricht's (1989) survey

Issues explored	Abbreviated question	Response
Static trade-off theory vs Pecking order theory	In raising new funds does your firm: seek to maintain a target capital structure by using approximately constant proportions of several types of long term capital simultaneously OR follow a hierarchy in which the most advantageous sources are exhausted before other sources are used	68.8% indicated a preference for a hierarchy
Pecking order predictions	Rank following sources in order of preference for financing new investments: Internal equity External common equity Straight debt Convertible debt Straight preferred stock Convertible prefered stock	Order of preference: Internal equity (ranked first by 84.3%) Straight debt (ranked second by 71.9%) Convertible debt External common equity Straight preferred stock Convertible preferred stock
Asymmetric information	Approximately what % of the time would you estimate that your firm's securities are priced fairly by the market? >80% 50-80% <50%	 47.20% responded 40.30% responded 11.90% responded
Static trade-off theory vs Pecking order theory Does finance decision dictate investment or vice versa?	Given an attractive new growth opportunity that could not be taken without departing from your target capital structure or financing hierarchy, cutting dividend or selling off other assets, what action is your firm likely to take?	82.40% indicated financing decision to be most flexible
Costs and benefits of issuing debt	Indicate the relative importance of following in your firm's financing decisions: Projected cash flow or earnings from assets to be financed Avoiding dilution of common shareholder claims Risk of asset to be financed Restrictive covenants of senior securities Avoiding mispricings of securities to be issued Corporate tax rate Voting control Level of depreciation and other non-debt tax shields Correcting mispricings of outstanding securities Personal tax rates of debt and equity holders Costs of bankruptcy	Mean response 1 being unimportant, 5- important 4.41 3.94 3.91 3.62 3.60 3.52 3.24 3.05 2.66 2.14 1.58
Issues influencing financing decision	Indicate the relative importance of following in your firm's financing decisions: Maintaining financial flexibility Ensuring long-term survivability Maintaining a predictable source of funds Maximising security prices Maintaining financial independence Maintaining a high debt rating Maintaining comparability with other firms in the industry	Mean response 1 being unimportant, 5- important 4.55 4.55 4.05 3.99 3.99 3.56 2.47

A summary of the relevant issues addressed, questions asked, and responses provided are shown in Table 3.4. Norton's respondents appeared to follow a pecking order or hierarchy when making issues of debt and equity. However, this did not appear to be to the exclusion of maintaining a target debt/equity ratio. Although the interest tax shield did appear to be an important consideration in the use of debt, financial distress potential was not a significant feature. Respondents indicated that they had no idea when it came to estimating bankruptcy costs. Thus, the target ratio was not the product of balancing the present value of the tax shield with possible bankruptcy costs. The agency costs of debt were also not a significant consideration amongst respondents, and consequently neither were steps to reduce agency costs.

Although respondents clearly appeared to follow a pecking order of financing sources, the reasoning behind this appears less clear. Respondents did not appear overly concerned with market responses to new issues of debt and equity, nor did they admit to the existence of asymmetrical information between themselves and the market place. Further, respondents did not appear to believe that issuing equity sends unfavourable signals and debt sends favourable signals to the market place. Private placements were uncommon among respondents and not considered to reduce the problem of asymmetrical information.

On balance, Norton's evidence appears conflicting. Although there is evidence to suggest respondents follow a hierarchy of sources in order of preference consistent with the pecking order theory, there is no evidence to suggest the pecking order arises out of asymmetrical information. Although there is some evidence of target debt/equity ratios and the importance of tax considerations, there is no evidence of a trade-off, as financial distress and agency costs of debt appeared not important. It would have been useful if Norton could have investigated alternative reasoning behind following a pecking order and target debt/equity ratios, especially in relation to who/what dictates the capacity for debt.

The study of most relevance to the present US business environment, is the recent survey of corporate financing practices by Graham and Harvey (2001). In addition to the practices of the Fortune 500 firms for 1998, they also increased the scope of

Table 3.4: A summary of the theory explored, questions asked and responses provided in Norton's (1989) survey

Issues explored	Abbreviated question	Response[1]
Pecking order theory	Which of the following describes the underlying firm philosophy in making debt and equity issues:(tick all applicable) 1)use internal money as much as possible 2)issue short term debt, long term debt 3)issue convertible securities 4)issue common stock	79%
Asymmetric information	Consider new market responses to new issues of debt and equity	42%
Avoid equity issues or target ratios?	Alternate between debt and equity issues	5%
Asymmetric information	Choice depends on existence of any differences in firm value between management and the marketplace	8%
Static trade-off theory	Try to balance PV of tax shield with possible bankruptcy costs	4%
Static trade-off theory	Issue debt and equity to stay close to a target debt/equity ratio	62%
Target ratio?	Use no long term debt	2%
External debt constraint	Borrow the maximum available	3%
	Borrow the maximum available with an A etc credit rating	31%
Financial distress or T/O	Maintain a given coverage ratio	25%
Financial distress	Careful firm evaluation of cash-flow variation and bankruptcy	6%
Respective costs	Issue debt when interest rates low, issue stock when prices high	25%
Respective costs goes against Static trade-off and Pecking order	Issue debt when interest rates low, issue stock when prices high even if no present need to build up fund cushion	15%
Agency theory	Reasons for the issue of convertible bonds/preferred stock	
	Take advantage of an unexpected common stock price increase	10%
	Help make the issue more marketable	13%
	Lower financing costs	31%
	N/A or no response	61%
Agency theory: Managers act in S/H interest to protect their personal reputations	If bankruptcy occurred, the chief officers/ executive vice presidents would, in general, find comparable positions elsewhere	30.9% agreed 25.5% neutral 43.6% disagreed
Agency theory:	The firm would suggest restrictive covenants to a doubtful lender in hopes of convinvcing lender to allow firm to borrow money	10.6% agreed 8.5% neutral 80.9% disagreed
Agency theory:	If the firm could issue Long term debt at the same after-issue, after-tax cost of uninsured debt, the firm would increase its relative use of debt financing	10.8% agreed 24.7% neutral 64.5% disagreed
Agency theory / Asymmetric information	Debt and equity costs are determined by the market and cannot be substantially affected by management actions (eg. more puplic disclosures or agreeing restrictive covenants).	42.1% agreed 16.8% neutral 41.1% disagreed
Asymmetric information	The firm uses private placements of stocks/bonds for atleast 75% of all new issues	15.5% agreed 4.1% neutral 80.4% disagreed
Asymmetric information	The firm believes that private placements offer a satisfactory exchange of information between firm and investors without publicising proprietary information	34.4% agreed 29.2% neutral 36.5% disagreed

[1]When respondents asked to tick all applicable options, Norton expressed response as a % of total number of options ticked. The response shown here is % of total respondents ticking a particular option to facilitate comparisons with other survey results

Table 3.4 continued

Issues explored	Abbreviated question	Response
Asymmetric information	The firm believes a decision to issue long term debt sends a favourable signal to financial market concerning future long term prospects	15.3% agreed 51% neutral 33.7% disagreed
Asymmetric information	The firm believes a decision to issue common stock sends an unfavourable signal to the financial markets	9.2% agreed 28.6% neutral 62.2% disagreed
Asymmetric information	Stock prices usually decline when debt is issued	8.3% agreed 19.8% neutral 71.9% disagreed
Asymmetric information/ Agency theory	Private placements offer the firm less restrictive covenants, all or in part due to a better information exchange	13.3% agreed 17.4% neutral 69.4% disagreed
Asymmetric information	Would firm release proprietary information to the capital market that may tip off competitors to plans/strategy/present developments if the information would lower cost of capital by 0.5%, 1% or 1.5%?	More than 2/3rds replied NO in all cases.
Attracting a clientele/ tax benefit of debt	The firm in its financing decisions, explicitly considers the difference in the tax treatment of retained earnings, dividends, interest income and capital gains from investor's viewpoint	58.8% agreed 17.5% neutral 23.7% disagreed
Interest tax shield	The use of equity finance would increase relative to debt finance if common and preferred stock dividends were to become tax-deductible.	78.4% agreed 14.4% neutral 7.2% disagreed
Interest tax shield	The use of debt finance would decrease relative to equity if bond interest were no longer tax-deductible	79.4% agreed 11.3% neutral 9.3% disagreed
Interest tax shield	The decision to issue debt or equity is affected by the existence of tax loss carryforwards	42.3% agreed 36.1% neutral 21.7% disagreed
Financial distress potential	If the firm were more R & D dependent for its success, the firm's debt/equity ratio would be lower	30.9% agreed 32% neutral 37.1% disagreed
Financial distress potential	Respondents asked to roughly estimate in case of bankruptcy, total bankruptcy costs as a percentage of total assets	75% of respondents failed to provide a response
Clientele effect	New issues of debt and equity are purposely targeted by the firm to attract certain investor groups (eg. low risk/return, high risk/return, financial institutions, individuals) as opposed to the capital market as a whole	26.8% agreed 17.5% neutral 55.7% disagreed

their investigation by including members of the Financial Executives Institute. Completed responses were received by 392 of the Fortune 500 firms and 4400 FEI members, a response rate of approximately 8.5%. Although Graham and Harvey's response was very low in relation to the number of potential respondents mailed, they indicated that it was comparable with other FEI quarterly surveys, and other academic surveys in recent times. In addition, the total number of respondents exceeds any of the previous capital structure survey investigations.

A summary of the issues explored by Graham and Harvey, the questions they asked and the responses they received is shown in Table 3.5. The responses are based on those for the entire sample, however Graham and Harvey further analysed responses by key firm characteristics to provide additional insight. There is evidence to suggest that respondents adopt a target debt ratio. However, in most cases, the target did not appear to be extremely strict. Financial flexibility (i.e. the ability to obtain further debt finances) was of paramount importance. Respondents appear to issue equity in order to maintain a target debt/equity ratio, especially when the firm was highly geared. In contrast, debt did not appear to be issued in response to the accumulation of substantial profits. Respondents did not appear to delay issuing or retiring debt because of the transaction costs and fees. In relation to the static trade-off theory, this could suggest that actual debt ratios were optimal. It also dispels the alternative explanation for the preference of internal equity over debt, over external equity, in the pecking order.

Graham and Harvey did not explicitly inquire whether respondents balanced the various costs and benefits of issuing debt when determining target ratios. However, they did investigate the relative importance of the costs and benefits. The interest tax shield was found to be of moderate importance in choosing the appropriate amount of debt. It was found to be of particular importance to large, regulated, dividend-paying firms, which are suggested as having the highest tax rates. The personal taxes facing investors appeared insignificant. The importance of corporate tax implications was further corroborated when respondents indicated that favourable tax treatment relative to the US was fairly important when issuing foreign debt. The importance of the potential costs of financial distress was not apparent among respondents. However, Graham and Harvey suggested that an

Table 3.5: A summary of the theory explored, questions asked and responses provided in Graham and Harvey's (2001) survey

Issues explored	Abbreviated question	Response[1]
Short term versus long term debt	What factors affect your firm's choice between short and long term debt?	Mean response
	-Matching the maturity of our debt with life of our assets	2.60
	-We issue LT debt to minimise the risk of having to 'refinance' in bad times	2.15
	-We issue ST when ST interest rates are low compared to LT	1.89
	-We issue ST when waiting for LT market interest rates to decline	1.78
	-We borrow ST so that returns from new projects can be captured more fully by S/H, rather than committing to pay LT profits as interest to debt holders	0.94
	-We expect our credit rating to improve so borrow ST until it does	0.85
	-Borrowing ST reduces the chance that our firm will want to take on risky projects	0.53
	-Other	Practical cash management consideration
Capital markets increasingly global	Has firm seriously considered issuing debt in foreign countries?	31% Yes
	If so what factors effect the decision?	
	-Providing a natural hedge (e.g.. if foreign currency devalues, not obligated to pay interest in $US)	3.15
	-Keeping 'source of funds' close to 'use of funds'	2.67
	-Favourable tax treatment relative to US	2.26
	-Foreign interest rates may be lower than domestic rates	2.19
	-Foreign regulations require debt to be issued abroad	0.61
	-Other	To broaden finance source
Agency theory	Has your firm seriously considered issuing convertible debt?	20% Yes
	If so what factors effect the decision?	
	-Convertibles are inexpensive way to issue delayed common stock	2.49
Pecking order	-Our stock is currently undervalued	2.34
	-Ability to 'call' or force conversion if/when needed	2.29
	-Avoid short term equity dilution	2.18
	-To attract investors unsure about riskiness of company	2.07
	-Convertibles are less expensive than straight debt	1.85
	-Other firms in our industry successfully use convertibles	1.10
	-Protecting bondholders against unfavourable actions by managers or stockholders	0.62
Decision to issue common stock	Has your firm seriously considered issuing common stock?	38% Yes
	If so what factors effect the decision?	
	-Earnings per share dilution	2.84
Asymmetric information	-The amount by which our stock is undervalued or overvalued by the market	2.69
	-If stock price has recently risen, the price at which we can issue is high	2.53
Agency theory	-Providing shares to employee bonus/stock option schemes	2.34
Static trade-off theory	-Maintaining a target debt-to-equity ratio	2.26
Corporate control	-Diluting the holding of certain shareholders	2.14
Pecking order	-Stock is our least risky source of funds	1.76
Pecking order	-Whether recent profits have been sufficient to fund activities	1.76
Industry influence	-Using a similar amount of equity as other firms in industry	1.45
Asymmetric information	-Issuing stock gives investors a better impression of firm's prospects than using debt	1.31
Pecking order	-Inability to obtain funds using debt, convertibles, or other sources	1.15
	-Common stock is our cheapest source of funds	1.10
Tax benefit	-The capital gains tax rates faced by our investors (relative to tax rates on dividends)	0.82
	-Other	Preferred currency for acquisitions

[1]0-not important to 4-very important

Table 3.5 continued

Issues explored	Abbreviated question	Response[1]
Static trade-off theory	Does firm have a target range for your debt ratio?	
	No target range	19%
	Flexible target range	37%
	Somewhat tight target range	34%
	Strict target range	10%
	What factors affect how you choose the appropriate amount of debt?	
Pecking order?	-Financial flexibility (restrict debt so we have enough internal funds available to pursue new projects when they come along)	2.59
External constraint	-Our credit ratings (as assigned by rating agencies)	2.46
PO/financial distress	-The volatility of our earnings and cash flows	2.32
Interest tax shield	-The tax advantage of interest deductibility	2.07
PO/STO	-Transition costs and fees for issuing debt	1.95
Industry effect	-The debt levels of other firms in our industry	1.49
Financial distress cost	-Potential costs of bankruptcy, near bankruptcy, financial distress	1.24
Stakeholder theory	-Limit debt so customers/suppliers are not worried about firm going out of business	1.24
Pecking order?	-Restrict borrowing so profits from new/future projects can be captured fully by shareholders and do not have to be paid out as interest to debtholders	1.01
Corporate control	-We try to have sufficient debt so not attractive take-over target	0.73
Interest tax shield	-Personal tax cost investors face when they receive interest income	0.68
Asymmetric information	-If we issue debt our competitors know we are unlikely to reduce our output	0.40
Agency theory	-To ensure upper management works hard and efficiently, we issue sufficient debt to ensure that a large proportion of cash flow is committed to interest payments	0.33
Stakeholder theory	-A high debt ratio helps us bargain for concessions from employees	0.16
	-Other: [responses included to minimise WACC, to fund projects/ growth as required, Covenants effect debt policy]	
	What other factors affect your firm's debt policy?	
Cost of debt	-We issue debt when interest rates are particularly low	2.22
Pecking order	-We issue debt when our recent profits are not sufficient to fund our activities	2.13
Asymmetric information	-We use debt when equity is undervalued by the market	1.56
Asymmetric information	-Changes in the price of our common stock	1.08
STO actual=optimal debt ratios	-We delay issuing debt because of transaction costs and fees	1.06
	-We delay retiring debt because of recapitalisation costs and fees	1.04
Asymmetric information	-Using debt gives investors a better impression of firm's prospects than issuing stock	0.96
Rebalancing ratios	-We issue debt when we have accumulated substantial profits	0.53

[1]0-not important to 4-very important

indirect importance might be inferred by the importance placed on credit ratings and earnings/cash flow volatility. In contradiction, the importance placed on earnings/cash flow volatility could indicate the reliance on internal funds as suggested in the pecking order, with the amount of debt depending on the requirement for external funds.

The agency costs/benefits of debt did not appear to rate significant consideration, although five respondents did indicate that covenants were important when asked what other factors affect how the appropriate amount of debt is chosen. However, little importance was placed on the fact that convertibles are less expensive than straight debt. Even less importance was placed on using convertibles to protect bond-holders against unfavourable actions by management/shareholders. The use of debt to mitigate conflicts between shareholders and management would not appear to be important. Graham and Harvey's evidence suggests that alternative means are employed such as encouraging managerial ownership. Respondents considered that providing shares to employees/stock option schemes were important factors in issuing equity. Respondents did not appear to place any importance on using debt to encourage management efficiency and to ensure that a large proportion of cash flow is committed to interest payments. However, Graham and Harvey further suggest that respondents might have been reluctant to admit to such action. They might also have been reluctant to take such action, if it meant curtailing the resources they themselves have most ability to appropriate.

In relation to corporate control considerations, Graham and Harvey suggested that there was moderate evidence that firms issue equity to dilute the shareholding of certain investors, though this bore no relation to the degree of management ownership. There appeared little support for firms using debt to prevent take-overs.

Graham and Harvey obtained moderate evidence that firms issued debt when interest rates were low, and issued short-term debt when short-term rates were low or long-term rates were expected to decline. They also found that favourable foreign rates could influence the decision to issue debt abroad. This evidence is not inconsistent with firms balancing the various costs and benefits of debt. However, it

lends no support to firms issuing debt purely in response to the requirement for additional finance.

Graham and Harvey did not explicitly inquire whether respondents followed a hierarchy or pecking order of preferred financial sources. However, they did investigate the theoretical arguments on which the pecking order is based. There is moderate evidence to suggest that debt was issued when recent profits were not sufficient to fund activities. Also, there is evidence to suggest that respondents' decisions to issue equity were affected by the amount that equity was believed to be under/over valued by the market. However, there is less evidence to suggest debt was used when equity was undervalued, and using debt was not thought to give investors any better impression of future prospects than issuing equity. Further the inability to obtain funds using debt and other sources did not appear important in the decision to issue equity.

Graham and Harvey concluded that their study provided weak evidence in suggesting that capital structure decisions are made according to both the static trade-off and the pecking order theories. However, owing to the lack of specific inquiries as to whether firms following a pecking order, there appears more evidence in relation to target debt ratios. The interest tax shield benefit to debt, and the cost in respect of interest rates are apparently important, but benefits and costs are not necessarily optimised, if target ratios also incorporate the preservation of debt capacity. Fundamentally, it is not clear whether capital structure dictates investment and dividend payout or vice-versa. Based on Graham and Harvey's evidence, the actual situation could well be interpreted as a combination of both.

Survey evidence outside the US, particularly in relation to the UK, appears to be extremely limited. Although somewhat dated, Fawthrop and Terry's (1975) survey of the use of leasing finance in 54 major UK corporations did encapsulate certain capital structure issues. A summary of the capital structure theory explored, questions asked and responses provided are shown in Table 3.6. Fawthrop and Terry found strong evidence to suggest that respondents used debt to equity ratios to constrain their debt limits. Consideration also appeared to be given to the ability to meet interest payments. Debt ratios appeared to be primarily determined on the

Table 3.6: A summary of the capital structure theory explored, questions asked and response provided in Fawthrop and Terry's (1975) survey

Issues explored	Abbreviated question	Response
Use of debt finance	Would you resort to debt to finance capital expenditure?	98% Yes (n=45)
Use of debt finance	Would you tend to use a series of short-term debt expedients, periodically 'consolidated' by a longer-term funding operation?	93% Yes (n=42)
Debt capacity	Do you consider that there is a limit to the amount of debt a company ought to use (apart from the limits imposed by the borrowing powers of directors)	98% Yes (n=51)
Definition debt capacity	Does this limit tend, in fact, to be set by any or all of the following?	(n=48)
	-The ratio of debt to equity in the balance sheet	73% very relevent 23% relevant 4% irrelevant
	-The prior charges cover in the profit and loss account	48% very relevent 40% relevant 12% irrelevant
	-The prior charges cover afforded by some kind of cash flow forecast	35% very relevent 40% relevant 25% irrelevant
	-Pushing borrowing up to the limit obtainable from all sources of lending open to the company, without regard to any special ratio or indicator	6% very relevent 25% relevant 69% irrelevant
What determines debt ratio	Is the standard for the debt/equity ratio set by any or all of the following?	
	An acceptable ratio for UK industry at large?	19% very relevent 36% relevant 47% irrelevant
	An acceptable ratio for companies in your industry?	34% very relevent 30% relevant 36% irrelevant
	-An acceptable ratio for companies of your size	28% very relevent 47% relevant 35% irrelevant
	-It will minimise the overall cost of finance	45% very relevent 32% relevant 23% irrelevant
	-It will be acceptable to your shareholders	38% very relevent 46% relevant 17% irrelevant
	-It does not seem too risky to management in terms of company survival	34% very relevent 36% relevant 30% irrelevant
	-It does not seem too risky to management in terms of flexibility or future room to manoeuvre	43% very relevent 35% relevant 22% irrelevant
	-An acceptable ratio as specified by your merchant bank or other financial adviser	26% very relevent 38% relevant 36% irrelevant
Types of debt	Which type of debt would you use? (n=44)	1st 2nd Last
	Bank overdraft	82 16 2
	Merchant bank loan	11 20 7
	Formal debenture	7 9 18
	Hire purchasing	0 5 9
	Leasing	9 20 16
	Bill of exchange	5 5 5
	Acceptance credit	2 16 11
	Others	0 2 2 Term loan, euro dollar

basis of maintaining financial flexibility and shareholder acceptance. Although Fawthrop and Terry's evidence is limited, the desire for 'flexibility and future room to manoeuvre' faintly resembles certain pecking order notions of capital structure.

Allen (1991) investigated the determinants of the capital structure of 48 listed Australian companies in a questionnaire/interview based field study. Although respondents appeared to place some importance on target debt ratios and the tax implications of debt, they appeared mostly concerned with maintaining spare debt capacity. In addition, internal funds appeared to be marginally favoured. Allen argued that his findings supported Donaldson's pecking order theory of capital structure. Although debt was considered favourable to equity for financing major expansions, there was no apparent difference when financing acquisitions. There is little evidence to suggest that debt limits were externally constrained. In fact, evidence of a target ratio together with maintaining debt capacity suggests an internally set debt constraint. There was some evidence to suggest that market conditions were a consideration when issuing equity. In favourable conditions, equity appeared to be issued to reduce leverage. This is contrary to the pecking order prediction of issuing equity only as a last resort.

Allen extended his work by conducting a survey specifically designed to investigate the extent to which firms in Australia, the UK and Japan maintained debt capacity. His evidence is based on responses from 132 listed Australian firms (response rate 24%), 67 of the largest UK firms ranked by turnover in the 1989 Times 1000 (response rate 13%), and 53 Japanese firms listed in the first section of the Tokyo stock exchange in 1992 (response rate 10%). A summary of his findings is shown in Table 3.8. In contrast to Japanese firms, firms in the UK appeared to maintain debt capacity, as did the majority of firms in Australia. Findings appear to suggest that the policy was driven by a need to be in a position to seize opportunities or to make acquisitions rather than a matter of insurance. This evidence supports the use of debt as and when required as suggested in the pecking order theory.

Prior survey evidence is summarised in Table 3.9. Although somewhat mixed, on balance on the basis of prior researchers own conclusions, it appears that the pecking order theory gains most support. However, although maintaining spare debt

Table 3.7: A summary of the theory explored, questions asked and responses provided in Allen's (1991) survey

Issues explored	Abbreviated question	Response
Interest tax shield	Do tax issues have a major influence on your decisions?	85% Yes (n=40)
Static trade-off theory	Do you have a target debt ratio?	75% Yes (n=48)
Maintaining debt capacity	Do you have a policy for maintaining spare debt capacity?	93% Yes (n=43)
Maintaining debt capacity	Could you borrow more at the same interest rate?	78% Yes (n=45)
Industry effect	Do you see your borrowing in idustry terms?	32% Yes (n=47)
Increase debt capacity?	Do you make use of off-balance sheet financing techniques?	32% Yes (n=28)
Defining debt capacity	Do respondents have a perceived limit on their total borrowing which they would not wish to exceed, if so how determined?	(n=48)
	Defined by debenture trust deeds or negative pledge agreements	46% specific upper limit
	By debt/equity	23%
	By debt/total tangible assets	25%
	By interest cover	2%
	By equity/total assets	6%
	By term debt/equity plus total debt	1%
Financial risk	How do respondents analyse financial risk?	(n=48)
	By interest cover	13%
	By cash flow projections/ability to repay debt	46%
	Asset value	2%
	Gearing ratio	4%
	All of the above	17%
	No reply	19%
Pecking order	Do you prefer to fund your business by means of internal or external funding sources?	(n=48)
	Internal	52%
	Mix	44%
	Depends on scale	2%
	No preference	2%
Duration of financing	Do you have any preferences for short-, medium- or long-term funding sources?	(n=48)
	Short (up to 1 year)	13%
	Medium/short (up to 3 years)	23%
	Medium (up to 5 years)	13%
	Long (> 5 years)	2%
	Policy of matching assets and liabilities	25%
	Term does not matter	2%
	Depends on interest rates	8%
	A balance of short/medium/longh	8%
Reasons for issuing equity	Under what circumstances would you make an equity issue?	(n=48)
	To fund a major expansion	8%
	To make an acquisition	19%
	To reduce leverage	6%
	If market conditions are right	2%
	To reduce leverage if market conditions right	44%
	Avoid it	15%
Reasons for issuing debt	Under what circumstances would you make a debt issue?	(n=48)
	To fund a major expansion	29%
	To make an acquisition	19%
	To add to liquidity	2%
	If market conditions are right	27%
	To fund a long-term asset if market conditions right	4%
	Avoid it	8%

Table 3.8: A summary of the theory explored, questions asked and responses provided in Allen's (1991) international survey on debt capacity

Issues explored	Abbreviated question	Response		
		Australia	UK	Japan
Investigating policies re spare-borrowing capacity	Do you have a policy of maintaining spare borrowing capacity?	55% Yes (n=132)	88% Yes (n=67)	32% (n=50)
	If yes, indicate what percentage of existing borrowing is maintained as spare?			
	Mean	23.70%	45.30%	93.60%
	Range	100.00%	200.00%	290.00%
	Minimum	0.00%	0.00%	10.00%
	Maximum	100.00%	200.00%	300.00%
	Median	13.00%	36.50%	50.00%
	Standard deviation	28.50%	40.63%	88.70%
Sources of spare borrowing capacity	Please indicate the nature and source of this spare borrowing capacity:	(n=67)	(n=58)	(n=17)
	Committed line of credit	22%	47%	63%
	Uncommitted line	6%	14%	-
	Bank line	21%	19%	19%
	Bank bill facility	30%	2%	6%
	Assets of the company	2%	-	13%
	Lease lines	3%	-	-
	Mortgage lending	2%	-	-
	Overdraft facility	15%	19%	-
Explanations of why spare borrowing capacity is maintained	Please indicate why you have a policy of maintaining spare borrowing capacity:	(n=64)	(n=60)	(n=16)
	For unplanned circumstances	41%	45%	31%
	Reserve for crisis	9%	13%	13%
	For unplanned opportunities	30%	23%	38%
	Special projects	5%	-	19%
	For acquisitions	14%	17%	-
	Policy of not levering up	2%	2%	-
Investigating the ability to borrow more without an impact on the interest rate paid?	How much could you borrow (as a % of existing borrowings) without increasing your average borrowing costs?			
	Mean	42.49%	60.42%	99.05%
	Range	500.00%	500.00%	919.00%
	Minimum	0.00%	0.00%	0.00%
	Maximum	500.00%	500.00%	919.00%
	Median	20.00%	27.50%	45.00%
	Standard deviation	74.68%	90.49%	200.41%
	Respondents with additional borrowing of 20% or more of existing borrowing without increasing average borrowing costs	63%	89%	20%

Table 3.9: A summary of capital structure surveys

Author's	Year	Respondents	Response Rate	Motivation/Content	Author's Conclusions	Criticism of Conclusions
US Setting						
Donaldson	1961	25 large US corporations		To provide insight into the financing practices of large US corporations	Hierarchy of financing sources **Pecking order**	
Stonehill et al.	1973	Firms in US, Japan, France, Norway, Holland		To provide insight into international financing practices	No debt ratio maintained, take advantage of favourable opportunities to issue debt or equity. **Conflicting both Pecking order and Static trade-off**	
Scott & Johnson	1982	CFO's of 212 of Fortune 1000 firms	21.20%	To provide insight into the financing policies and practices of US corporations	Firm's have target leverage ratios and accept the notion of optimal capital structure **Static trade-off**	No explanation of how targets determined
Pinegar & Wilbricht	1989	CFO's of 176 of Fortune 500 firms	35.20%	To examine the extent managers use the assumptions and/or inputs of capital structure models in making financing decisions	Evidence supports the use of a financing hierarchy **Pecking order**	Corporate taxes of some importance
Norton	1989	CFO's of 98 of Fortune 500 firms	21% based on 468 firms	To establish the determinants of capital structure based on the static trade-off, pecking order theories and agency costs/signalling/asymmetric info	Some evidence of target ratios, hierarchy of sources. No evidence of a trade-off or asymmetric information or agency costs. **Mixed evidence**	No indication of who/what dictates capacity for debt
Graham & Harvey	2001	CFO's of 392 of Fortune 500 firms and 4400 FEI members. (4587 sample)	8.50%	Investigation of current corporate financing practices	**Supports static trade-off** Target debt ratio to maintain financial flexibility. Moderate importance of tax implications, less emphasis on financial distress. Interest cost of debt of moderate importance. **Supports pecking order** Moderate evidence that debt issued when recent profits insufficient and equity issues affected by market valuation. No significant consideration of agency costs/benefits, corporate control	More evidence in support of static trade-off. No explicit inquiry as to whether costs and benefits of debt balanced, or if respondents follow a hierarchy or pecking order of sources
Settings other than US						
Fawthrop & Terry	1975	54 major UK corporations		Debt management and use of leasing in UK corporate financing strategies	Use of debt ratios to constrain debt limits. Importance of maintaining financial flexibility.	
Allen	1991	48 listed Australian corporations		Investigation of the determinants of capital structure	Some evidence on target debt ratios and tax implications of debt. Most concern with maintaining spare debt capacity. Internal funds marginally favoured. **Pecking order**	No evidence that debt is externally constrained Equity issued in favourable conditions
Allen	1991	132 Australian 67 Large UK 53 Japanese	24% 13% 10%	To investigate extent debt capacity is maintained	UK and Australian firms maintain debt capacity to be in a position to seize opportunities or make acquisitions. **Pecking order** No[illegible]o in Japanese firms.	

capacity and financial flexibility appears to be of major concern, the use of target debt ratios and the tax implications of debt do not appear irrelevant. These findings are reflected in Graham and Harvey's (2001) study which, on the basis of timing, is relevant to the current business environment. In addition, studies prior to Graham and Harvey appear to be extremely partial, making it difficult to draw robust conclusions. However, Graham and Harvey appear to have implicitly investigated certain theoretical issues, when a more explicit inquiry might have provided additional insight. Further, there appears a definite lack of survey evidence in the UK both past and present. Therefore, the survey investigation in the present study could not fail to be considered anything less than an urgent necessity.

3.3: Capital structure prior research using accounting/company data

The analysis of accounting data has been used to investigate both the way firms determine their levels of debt and equity (i.e. static trade-off or pecking order), and to identify firm characteristics that appear to promote high/low levels of debt. Two main approaches have been adopted. Firstly, the examination of cross-sectional relationships between debt ratios and other firm characteristics. Secondly, by the examination of firms' previous decisions to issue debt or equity

3.3.1 Relationships between the degree of use of debt and other firm characteristics

A significant number of previous studies have examined the relationship between debt and other firm characteristics. Each study claims to focus on different aspects of capital structure theory. However, certain firm characteristics have been examined by several researchers. In order to provide a coherent review, an outline of previous researchers' intentions is provided on a study-by-study basis. However, findings are summarised according to the relationships being tested and the proxies used. Prior studies are also grouped according to their country of origin

US based studies

A summary of the relationships investigated between capital structure and other firm characteristics and the subsequent findings is shown in Table 3.10.

Ferri and Jones (1979) investigated the relationship between the capital structure and the industrial classifications, size, variability of income and operating leverage of 233 industrial firms over the time periods 1969 to 1974 and 1971 to 1976. They found the degree of financial leverage to be associated to an industry classification based on dominant and similar product lines. However, their findings did not indicate that firms in certain industries were likely to be more highly geared than in others. In fact, firms in each industry group were found to exhibit varying degrees of debt. This appears to suggest that the industry classification used could be partially capturing some other common characteristic. Small firms, on the basis of low average sales, were found to exhibit either high or low levels of gearing, compared to intermediary levels exhibited by large firms.

Business risk proxied by measures of historical volatility in sales and cash flow was not significantly related to financial gearing. A strong negative relationship was found between operating leverage and the use of debt. Ferri and Jones note that 'operating leverage may be defined as the use of fixed costs but is generally associated with the employment of fixed assets which can magnify the variability in a firm's future income.' They used the proportion of fixed assets to total assets as a proxy for operating leverage. However, a negative relationship between gearing and this measure might not necessarily be expected if a large proportion of fixed assets provides collateral for borrowing. Also, a large proportion of tangible fixed assets reduces the potential costs of financial distress in the event of liquidation.

Bradley, Jarrell and Kim (1984) used cross-sectional firm-specific data to test for the existence of an optimal capital structure. They constructed an ordinary least squared regression model for 821 firms, with long-term debt to value ratio over the period 1962 to 1981 as the dependent variable. Independent variables were used to proxy the agency costs, tax benefits and financial distress potential of debt. Industry dummy variables were also included to account for cross-sectional differences in capital structure. In comparison to Ferri and Jones, Bradley et al. found a much

Table 3.10: Prior US research of relationships between financial gearing and other firm characteristics

	Ferri & Jones (1979)	Bradley, Jarrell & Kim (1984)	Titman & Wessells (1988)	Barton, Hill & Sundaram (1989)	Baskin (1989)	Chang & Rhee (1990)	Balakrishnan & Fox (1993)	Graham, Lemmon & Schallheim (1998)	Mehran, Taggart & Yermack (1999)	Balkaoui (1999)	Summary
Financial Gearing (Dependent Variable)	Total debt to Total assets (BV)	Average long-term BV of debt to average long -term BV of debt plus MV equity	Six measures: Long-term, short-term & convertible debt to MV and BV of equity	MV of Owners equity to invested capital*	BV of short-term & long-term debt to BV of debt plus equity	Two measures: Long-term debt to long-term debt plus MV and BV of equity	BV of total debt to BV of total debt plus MV of equity	BV of total long-term debt net of capital leases to MV of firm	Total debt to total debt plus MV of equity	MV of total debt to equity	
Size	Total & average sales & assets **SIGNIFICANT but non-linear**		Log of sales Employee quit rates **SHORT TERM NEGATIVE**	Log of sales **INSIGNIFICANT**		Annual average log of BV of equity **POSITIVE**		Log of MV of firm **POSITIVE**	Log of total sales **POSITIVE**		**POS**
Variability of Earnings	Measures of historical volatility in sales & pre-tax cash flow **INSIGNIFICANT**	Standard deviation in first difference in annual earnings to BV total assets **NEGATIVE**	Standard deviation of % change in operating income **INSIGNIFICANT**	Coefficient of variation in profit **POSITIVE**		Standard deviation of annual operating income to BV of total assets **POSITIVE**	Standard deviation in first difference in annual earnings to BV total assets **NEGATIVE**	Interaction of Coefficient of variation in earnings and asset intangibility **NEGATIVE**	Standard deviation of EBIT to total assets **POSITIVE**		**?**
Industry	Dominant product & similar product lines **SIGNIFICANT**	Industry dummy variables **SIGNIFICANT**	Dummy variable equal to 1 for firms producing machines/equip **SIGNIFICANT**					Industry dummy variables for each one-digit SIC code grouping **SIGNIFICANT**			**SIG**
Asset Structure / Operating Leverage	Fixed assets to total assets **NEGATIVE**		Intangible assets to total assets. Inventory plus gross plant to total assets. **INSIGNIFICANT**	Inventory plus gross plant to total assets **INSIGNIFICANT**				Net property, plant & equipment to total assets **POSITIVE**			**?**
Agency Problems/ Uniqueness		Advertising plus research and development to net sales **NEGATIVE**	R & D to sales Selling expenses to sales Employee quit rates **NEGATIVE**	Advertising plus R & D to sales **INSIGNIFICANT**			R & D to net sales **NEGATIVE** Advertising to net sales **POSITIVE**	Interaction of Coefficient of variation in earnings and asset intangibility **NEGATIVE**			**NEG**

* As debt is included in the denominator of this gearing ratios, the reverse of the relationships found is reported in this table to indicate the relationship between firm characteristic and debt.

Table 3.10 continued

	Ferri & Jones (1979)	Bradley, Jarrell & Kim (1984)	Titman & Wessells (1988)	Barton, Hill & Sundaram (1989)	Baskin (1989)	Chang & Rhee (1990)	Balakrishnan & Fox (1993)	Graham, Lemmon & Schallheim (1998)	Mehran, Taggart & Yermack (1999)	Balkaoui (1999)	Summary
Non-Debt Tax Shields		Annual depreciation plus investment tax credit to EBIT plus depreciation **POSITIVE**	ITC to total assets Depreciation to total assets. Estimate non debt tax shield to assets **INSIGNIFICANT**	Depreciation plus ITC plus tax loss carry-forward to total assets **POSITIVE**		Annual average depreciation plus ITC plus tax loss carry-forward to sales **POSITIVE**	Depreciation plus amortisation plus investment tax credits to EBIT plus depreciation **POSITIVE**				**POS**
Profitability			Operating income to sales & assets **NEGATIVE** for MV measures	EBIT to total assets **POSITIVE**	Return on assets **NEGATIVE**	Average return on assets **NEGATIVE**			EBIT to total assets **NEGATIVE**		**NEG**
Marginal Tax Rate								Simulated measure incorporating net operating loss carry forwards and backs and ITC **POSITIVE**	Same measure as Graham, Lemmon and Schallheim **NEGATIVE**		**?**
Dividend Pay -out					Dividend to BV of equity **POSITIVE**				Dividend to stockholders equity **POSITIVE**		**POS**
Growth			Capital expenditure to total assets. % change in assets. R & D to sales **INSIGNIFICANT**	Log of assets and coefficient of variation regressed over time **INSIGNIFICANT**	Ratio of capital invested over time **POSITIVE**	Annualised computed growth rate in total assets **POSITIVE**	Capital expenditure on property, plant & equipment to EBITD **NEGATIVE**				**?**
Investment opportunity								Market to book value **NEGATIVE**	Market to book value **NEGATIVE**	Market to book value **NEGATIVE**	**NEG**
CEO Ownership									% CEO shares **POSITIVE**		**POS**
Multi-nationality										Foreign sales, profits, assets to total **POSITIVE**	**POS**

stronger industry influence on financial gearing. Industry dummy variables appeared to explain 54% of the variation in gearing across firms. Firms in the drugs and cosmetics industry exhibited the lowest levels of gearing and firms in the airline industry exhibited the highest.

Bradley et al. found a negative relationship between financial gearing and variability in earnings, which is consistent with the financial distress element in determining optimal capital structure. A negative relationship was also found between gearing and the proportion of advertising and research and development costs to net sales, used as a proxy for potential agency costs. However, against expectations, the relationship between gearing and non-debt tax shields was found to be positive. The interest tax shield benefit of debt, and hence the use of debt, is expected to be reduced by the presence of non-debt tax shield. However, highly profitable firms may still benefit from interest tax shields despite high levels of other non-debt tax shields. Thus, Bradley et al.'s measure of non-debt tax shield only partially captures the possible benefit to be derived from the interest tax shield of debt.

Titman and Wessels (1988) examined the relationship between a broader set of firm characteristics and long-term and short-term and convertible debt for 469 firms. Three- year averages were used over three sub-periods spanning 1974 to 1982. They employed a factor analytic approach to mitigate any measurement problems arising from the use of proxy variables. In addition to the relationships tested in the previous two US studies, Titman and Wessels also considered the relationships between debt levels and firm profitability, asset structure and growth.

In support of Bradley et al., Titman and Wessels also found a negative relationship between debt ratios and both the proportions of research and development costs and selling expenses to sales. However, they employed these measures as proxies for 'uniqueness of a firm's line of business' rather than a firm's potential agency costs. Product uniqueness, according to the stakeholder theory, promotes low levels of debt as it imposes high costs on customers, employees and suppliers in the event of liquidation. This is said to also apply to firms with products that require specialised after service or part replacement. Titman and Wessels confirmed this to be the case

when using an industry dummy variable for firms producing machinery and equipment. They also found short-term debt ratios to be negatively related to firm size, which they suggest might reflect the relatively high transaction costs facing small firms when issuing long-term debt. Profitability was found to have a significantly negative relationship with financial gearing when debt was scaled with the market value of equity. This is consistent with the pecking order preference for primarily financing with internal reserves. Titman and Wessels found all other relationships to be statistically insignificant.

Barton, Hill and Sundaram (1989) investigated the relationship between capital structure and the same firm characteristics (excluding industry influence) as investigated by Titman and Wessels, albeit under the premise of specifically testing the stakeholder theory predictions of capital structure. Like Titman and Wessels, they also found a negative relationship between debt levels and profitability. In addition, they categorised their sample into two different strategy groups, related and unrelated diversification. They found firms with related product markets and technologies to have lower debt ratios than firms with unrelated activities. Based on the proposition that firms with related activities are likely to have common stakeholders, they suggest that findings support the stakeholder theory of capital structure. However, the existence of common stakeholders doesn't necessarily infer that they would be in receipt of high costs in the event of liquidation, if alternative products, manufacturers or employers were available elsewhere. Barton et al.'s findings might be better explained by the argument that related diversification is associated with a higher overall operating risk than unrelated diversification.

Baskin (1989) considered the relationship between financial gearing and profitability, dividend payout and investment/growth in an investigation of the pecking order theory. He employed ordinary least squared regression analysis to data for 378 Fortune 500 firms spanning the time period 1960 to 1972. He found both past and present profitability to be negatively related to debt levels and growth and past dividend payout to be positively related to debt levels. He suggested that these findings coincide with the pecking-order predictions of preference for internal finance with debt requirements dictated by dividend payout and investment opportunities.

Chang and Rhee (1990) examined the relationship between financial leverage and dividend policy for 508 firms spanning the time period 1969 to 1987. They used attributes such as growth potential, earnings variability, non-debt tax shields, size and profitability as control variables. Like Baskin, they found a strong correlation between debt and dividend ratios. Using regression analysis they also found a negative relationship between debt and profitability and a positive relationship between debt and growth. However, they interpret the evidence of a positive relationship between debt and dividend ratios as support for the integration of a tax-induced dividend clientele effect and financial leverage clientele effect. They note that under the dividend clientele effect a negative relationship exists between shareholder tax rates and dividend payout, and under the financial leverage clientele effect, a negative relationship also exists between shareholder tax rates and financial leverage. Thus combined the relationship between dividend payout and financial leverage is positive. Chang and Rhee fail to acknowledge the possibility that in order to sustain high dividend payout and investment, firms may simply require more debt finance.

Balakrishnan and Fox (1993) focused on the relative importance of industry and firm effects on capital structure. They based their analysis on 295 single business firms over the time period 1978 to 1987 to control for the effects of diversification. As in previous studies, they used a regression model to investigate the relationship between financial gearing and earnings volatility, non-debt tax shields, research and development and advertising intensity, and growth opportunities. However, they also decomposed the total sample variance in capital structure into firm, industry and time components. The firm components were based on Compustat firm identification numbers. The firm effect was found to be most important, it explained 52% of capital structure variance. Inter-industry differences were found to account for 10% and time differences 1%.

Balakrishnan and Fox thus concluded the importance of unique firm characteristics in determining capital structure. However, their findings might suggest more than just a unique combination of firm characteristics which influence capital structure through the various costs and benefits associated with debt. They could also suggest

the existence of differences in the emphasis placed on the various costs and benefits by individual firms.

Graham, Lemmon and Schallheim (1998) specifically investigated the interest tax shield benefit to debt in their study of lease and debt determinants[3]. Rather than considering the possible benefit to be obtained from the interest tax shield through separate measures of profitability and non-debt tax shields, they employed a simulated marginal tax rate measure. This incorporated net operating loss carry-forwards and carry-backs, as well as investment tax credits. A positive relationship was found between this measure and the level of debt for 18193 firm year observations over the time period 1981 to 1992. These findings infer that firms with the highest debt levels also derive the most benefit from the interest tax shield of debt. However, Graham (2000), in a further study, went on to quantify the tax benefit to debt. He estimated, under firm-specific benefit functions, the capitalised tax benefit of debt to equal 9.7% of firm value, or 4.3% net of personal taxes. He noted that for a typical firm, this benefit could be increased to about 15% before it begins to decline. His findings, therefore, appear to suggest that although interest tax shields are influential in financing decisions, because tax benefits are not exhausted, other costs and benefits to debt are a consideration.

As an aside, Gordon and Lee (1999) used corporate tax return data to focus on the variation in tax incentives across firms and the impact on debt. They found that taxes appear to have a large effect on the use of debt by the smallest and largest firms but less effect for firms of intermediate size. This appears to suggest that the tax benefit to debt is not as important to larger firms compared to smaller firms, and much less important to intermediary firms. In which case, other costs and benefits of debt, which vary in degree with firm size might also exert influence.

Graham, Lemmon and Schallheim also used dummy time variables in their regression model to control for changes in financial policies. The coefficient estimates of the time variables were not found to be statistically significant. This could provide at least some degree of reassurance to previous studies in which time has only been partially captured through the use of averages.

[3] Graham et al.'s study is outlined in more detail in section 3.7.2 of this chapter

Mehran, Taggart and Yermack (1999), adopting a financial contracting cost perspective, found CEO ownership to be positively related to debt financing in their investigation of CEO ownership and leasing.[4] They used regression analysis for 1056 firm observations over the period 1986 to 1991. They suggested that, as shareholders, those making the financing decisions are more aware of the agency benefits of debt. Committing cash flow to interest payments reduces the opportunities for lower levels of management to use surplus funds to their own personal benefit. However, the degree with which lower management could use surplus funds for personal benefit might be debatable. The positive relationship between CEO ownership and debt might reflect a strategy to maintain corporate control. However, their findings might also suggest that those with personal financial interest beyond their employment take a closer look at all the benefits of debt financing. It is unlikely that financing decisions made by those with a significant personal share-holding will follow Miller's process of neutral mutation.

In addition to other control variables, Mehran et al. employed a simulated marginal tax rate based on Graham et al.'s measure. In contrast to Graham et al, they found a negative relationship between marginal tax rate and the level of debt. They mainly attribute this result to their use of a relatively smaller sample size. However, the difference in findings might equally arise from differences in the combination of independent variables used. Mehran et al.'s findings appear to cast some shadow of doubt on the degree of importance placed on the interest-tax shield benefit to debt.

Belkaoui (1999) used covariance analysis to investigate the relationship between capital structure and the investment opportunities facing US manufacturing and servicing firms. He found a significant difference between the debt to equity ratios of high growth and low growth firms, with high growth firms exhibiting lower debt levels. He also found firms with high multi-nationality to have high debt ratios than low multi-nationality. This might be expected if firms are able to lower operating risk by spreading their business across international markets.

[4] Mehran et al.'s study is outlined in more detail in section 3.7.2 of this chapter

International studies

A summary of the relationships investigated between capital structure and other firm characteristics across countries is shown in Table 3.11.

Toy at al. (1974) investigated whether growth, profitability and risk variables were determinants of corporate debt ratios in the manufacturing sector in industrialised countries. They used regression analysis for a sample of 816 firms in four selected industries in Japan, France, Norway, Holland and the US during the period 1966 to 1972. With the exception of France, they found individual models for each country to be highly significant, i.e. a relatively high variation in capital structure was explained by the growth, profitability and risk variables. In addition, a positive relationship was found between financial gearing and both variability in earnings in the US, Japan and Norway, and growth in the US and Japan. However, these findings are contrary to the financial distress and agency costs of debt.

Kester (1986) tested the hypothesis that Japanese manufacturing is more highly geared than US manufacturing, based on the suggestion that the increase in Japanese competitiveness may be partially due to an aggressive use of relatively low cost debt finance. He employed regression analysis to cross-sectional data for 344 Japanese firms and 452 US firms over the period 1982 to 1983. In contrast to Toy et al., Kester used a dummy variable to account for the different countries, rather than obtaining separate models for both countries. The country dummy variable was set to 0 for Japan and 1 for the US. The significantly negative relationship found between gearing and the country dummy indicated that Japanese firms exhibit higher levels of debt. Kester also found firms in mature, heavy industries such as steel, general chemicals, non-ferrous metals, paper, petroleum and refining to exhibit higher levels of debt. In contrast to Toy et al., he failed to observe a significant relationship between financial gearing and variability of earnings.

Rajan and Zingales (1995) investigated the determinants of capital structure in major industrialised countries, namely the US, Japan, Germany, France, Italy, the UK and Canada. They employed regression analysis to samples of firms from each country. At an aggregate level, they found financial gearing to be fairly similar across countries. They used measures of profitability, size, investment opportunity

Table 3.11: Prior international research of relationships between financial gearing and other firm characteristics

	Toy, Stonehill, Remmers, Wright & Beekhuisen (1974)	Kester (1986)	Rajan and Zingales (1995)	Wald (1999)	Summary
Financial Gearing (Dep var)	BV of total debt to total assets	BV of total debt and net debt to BV & MV equity	Adjusted debt to capitalisation ratio including BV and MV of equity	Long-term debt to BV of assets	
Size		Sales volume **INSIGNIFICANT**	Log of net sales US Japan France Germany Italy UK Canada **POS POS INSIG NEG INSIG POS (BV) POS**	Log of total assets US Japan France Germany UK **POS POS INSIG NEG POS**	**?**
Variability of Earnings	Coefficient of variation of earnings rate US Japan France Norway Holland **POS POS INSIG POS INSIG**	OLS predictions of ROA over 5yr **INSIGNIFICANT**		Variance of EBIT to total assets US Japan France Germany UK **NEG POS INSIG INSIG POS**	**?**
Industry		Dummy var for 26 industries **SIGNIFICANT** for mature/heavy industries			**SIG**
Asset Structure /			Fixed assets to total assets US Japan France Germany Italy UK Canada **POS POS POS (BV) POS POS (MV) POS POS**	Property, plant & equipment to total assets US Japan France Germany UK **POS POS POS POS POS**	**POS**
Agency Problems/ Uniqueness				Research and development expenses to sales US Japan France Germany UK **NEG NEG NEG NEG NEG**	**NEG**
Non-Debt Tax Shields				Depreciation to total assets US Japan France Germany UK **NEG INSIG INSIG INSIG INSIG**	**INSIG**
Profitability	Average earnings rate US Japan France Norway Holland **NEG NEG INSIG NEG NEG**	EBIT plue extra-ordinary items to avg assets: **NEG**	EBITDA to book value of assets US Japan France Germany Italy UK Canada **NEG NEG INSIG INSIG INSIG NEG (MV) NEG**	Mean earnings to total assets 5 to 10 years previous US Japan France Germany UK **NEG NEG NEG NEG NEG**	**NEG**
Growth	Regress of log of total assets. Regress of coefficient of variation US Japan France Norway Holland **POS POS INSIG INSIG INSIG**	Compound annual average rate of growth **POS (MV)**		Five year average of sales growth US Japan France Germany UK **NEG POS POS POS POS**	**POS**
Investment opportunity			Market to book value of assets US Japan France Germany Italy UK Canada **NEG NEG (MV) NEG NEG NEG (MV) NEG NEG**		**NEG**
Country		Dummy variables equal to 0 for Japan, 1 for US **NEG**			

and asset structure to explain cross-sectional differences in gearing. The only conflicting difference apparent across companies appears to be in terms of firm size. A negative relationship was found between size and gearing in Germany compared to a positive relationship in the US, Japan, the UK and Canada. The relationship between gearing and profitability was insignificant across firms in Germany, France and Italy, and the relationship with size was also insignificant for France and Italy. However, findings could be attributed to the use of significantly smaller samples of firms in Germany, France and Italy compared to the sample size for the other four countries.

Wald (1999) examined firm factors correlated with capital structure in France, Germany, Japan, the UK and the US. Aside from limiting the scope of countries, Wald's study differed from that of Rajan and Zingales by examining a wider set of firm characteristics. Although Rajan and Zingales' general conclusions of similar financial gearing across countries were confirmed, Wald claimed to identify areas where differences might exist. He concluded that the variables measuring variability of earnings, growth and firm size have a different effect on gearing in different countries. As institutions and agencies differ across countries he inferred that this might be a significant determinant of capital structure. However, in criticism of these conclusions, similar measures of variability in earnings have produced conflicting results in studies within the US.

UK based studies

A summary of the relationships investigated between capital structure and other firm characteristics and the subsequent findings is shown in Table 3.12.

Bennett and Donnelly (1993) examined the cross-sectional variation in gearing among 433 non-financial UK firms. They considered six measures of financial gearing based on total, long-term and short-term debt, and both market and book firm values. To explain cross-sectional differences in gearing they used variables attributed to various capital structure theories. They performed multiple regression analysis with the gearing measures as the dependent variables, and measures of profitability, size, asset structure, non-debt tax shields, variability of earnings,

Table 3.12: Prior UK research of relationships between financial gearing and other firm characteristics

	Bennett and Donnelly (1993)	Lasfer (1995)	Adedeji[1] (1998)	Jordan, Lowe and Taylor (1998)	Bevan and Danbolt (2002)	Ozkan (2001)	Summary
Financial Gearing (Dep var)	Six measures: Total, long-term, short-term debt to MV of equity plus debt, and to BV of total assets less current liabilities	Two measures: Long-term debt to long-term debt plus MV and BV of equity	Total debt to total debt plus market value of equity	Three measures: Average debt to equity, log of above, average debt to total capital	Eight measures: MV & BV of total debt plus trade credit & equivalent to total assets, debt to total assets, debt to capital, adjusted debt to adjusted capital	Total debt to tatoal assets	
Size	Log of sales **POSITIVE** for total & long-term debt	Log of total assets **POSITIVE**	Log of annual average sales over 5 years **INSIGNIFICANT**	Log of average level of sales over 4 years **INSIGNIFICANT**	Log of sales **POSITIVE (BV)**	Log of sales **INSIGNIFICANT**	**?**
Variability of earnings	Standard deviation of first difference in earnings before depreciation to average total assets **POSITIVE**		Standard deviation of (annual change in EBITD to total assets) over 10 years **INSIGNIFICANT**	Coefficient of variation of profit before interest and tax **POSITIVE**			**POS**
Industry	Dummy variables for 19 industries **SIGNIFICANT**		Dummy variables for 9 ind with >9 firms in each **SIGNIFICANT**	9 dummy variables denoting a one digit level SIC code ind **INSIGNIFICANT**			**SIG**
Asset Structure	Plant & machinery to total assets less current liabilities **POSITIVE** for total & short-term debt		Net book value of plant & machinery to total assets **POSITIVE**	Log of average fixed assets to current assets **POSITIVE**	Fixed assets to total assets **POSITIVE** NEG (MV total debt, trade cr & equivalent to total assets)		**POS**
Agency problems			Research and development to sales **NEGATIVE**				**NEG**
Non-debt tax shield	Potential deferred tax liability to total assets less current liabilities **NEGATIVE**	Loss of interest tax shields: Tax exhaustion dummy =1 if ECT<0 **NEG (BV) POS (MV)**	Deferred tax liability to total assets **NEGATIVE**			Annual depreciation to total assets **NEGATIVE**	**NEG**
Profitability	Operating income to total assets **NEGATIVE** for total & long-term debt to MV of equity plus debt		EBIT to total assets **NEGATIVE**	Average profit before interest and tax to average turnover Square of above **INSIGNIFICANT**	EBITDA to total assets **NEGATIVE**	EBITDA to total assets **NEGATIVE**	**NEG**
Effective tax rate		Estimated taxable profits before interest multiplied by corporation tax rates to pre-tax profits **INSIGNIFICANT**		Average tax paid to average profit before interest and tax **NEGATIVE**			**?**
Dividend payout			Dividends to distributable earnings **POSITIVE**				**POS**

[1]Based on OLS regression estimates obtained with average financial gearing measures

Table 3.12 continued

	Bennett and Donnelly (1993)	Lasfer (1995)	Adedeji[1] (1998)	Jordan, Lowe and Taylor (1998)	Bevan and Danbolt (2002)	Ozkan (2001)	Summary
Growth	Percentage annual change in total assets **INSIGNIFICANT**		Average annual change in total assets over 5 years **INSIGNIFICANT**	Annual turnover growth rate **INSIGNIFICANT**			**INSIG**
Investment opportunities		Market value of firm to replacement cost of assets=q **NEGATIVE**			Market to book ratio **NEGATIVE (MV)**	Market to book ratio **NEGATIVE**	**NEG**
Management ownership		Dummy=1 if % of shares owned by managers is higher than median **INSIGNIFICANT**					**INSIG**
Availability free cash flow		High over investment potential=high cash flow and low q **POS (BV)** Low over investment potential=low cash flow and high q **NEG (MV)**		Average profit before interest and tax plus average depreciation less average tax **POSITIVE**			**POS**
Probability of default		Interest charge to profit before interest and tax **INSIGNIFICANT**					**INSIG**
Market assessment of firm risk		Systematic risk regression coefficient of 5 years monthly returns to market index **POSITIVE - MV**					**POS**
Liquidity						Current assets to current liabilities **NEGATIVE**	**NEG**
Corporate strategy				Diversification: Dummy = 1 if SIC code > 1 Dummy=1 if YES to new product in new market **INSIGNIFICANT**			**INSIG**
Competitive strategy				Innovation: Oblique score **NEGATIVE** Differentiation dummy Cost reduction dummy **SIGNIFICANT**			**SIG**
Pecking order				Dummy variable re importance of access to finance **POSITIVE** Dummy variable re access to finance has been a problem **POSITIVE** Ratio of non-executive directors to executive **NEGATIVE**			**SIG**

[1]Based on OLS regression estimates obtained with average financial gearing measures

growth and industry classification as independent variables. They found industry classification to be significant based on an increase in the explanatory power of regression models when industry dummy variables were included. Firm profitability and size were found to be significant long-term debt determinants, whereas asset structure appeared to be significant in relation to short-term debt. The proxy for non-debt tax shield was found to have a significantly negative relationship with financial gearing, and variability of earnings to have a significantly positive relationship. Bennett and Donnelly concluded that the relationship found between financial gearing and firm size, asset structure and non-debt tax shields supported the balancing theory of optimal capital structure, although the relationship between financial gearing and variability of earnings was contrary to the financial distress potential of debt.

Lasfer (1995) concentrated on the impact of corporation tax and agency costs on the capital structure of 88 UK industrial and commercial firms over the period 1972 to 1983. He used two measures of financial gearing, which he suggested captured both short run and long run capital structure determinants. However, the measures both employed long-term debt, with the market value of equity to capture short run determinants and book value of equity to capture long run determinants. He employed several independent variables derived from the tax hypothesis or agency theory of debt. Multiple regression analysis was used to investigate the relationships between financial gearing and alternative tax variables independently, as well as alternative measures of investment opportunities. Lasfer suggested that agency costs are the major determinants of capital structure on the basis of finding a negative relationship between investment opportunities and financial gearing. In addition, he noted the importance of agency benefits to debt. He suggested the importance of debt in mitigating free cash flow problems on the basis of observing firms with high cash flow and low investment opportunities to use more debt than firms with low cash flow and high investment opportunities.

Lasfer's findings suggest that corporate taxes do not appear to have a major impact on determining capital structure. The relationship between effective corporation tax rate and financial gearing was found to be insignificant. Also, the relationship

between a tax exhaustion dummy variable and financial gearing was found to be either positive or negative depending on the definition of financial gearing used.

Adedeji (1998) investigated the relationship between dividend payout, financial gearing and investment opportunities for 224 UK firms over the period 1993 to 1996, in accordance with the predictions of the pecking order hypothesis of capital structure. In addition to testing if financial gearing is a function of dividend payout and investment opportunities as well as other factors, Adedeji also tested if dividend payout is a function of financial leverage and investment, and if investment is a function of dividend payout and financial leverage. Multiple regression analysis was used with financial gearing, dividend payout and investment as dependent variables. Adedeji used measures of profitability, size, asset structure, variability of earnings, non-debt tax shields, research and development to control for differences in gearing, investment and dividend payout across firms. In line with the pecking order predictions, Adedeji found a positive relationship between financial gearing and dividend payout and a negative relationship between financial gearing and profitability. These findings mirrored those of a previous study conducted by Allen (1993) in an Australian context. Adedeji found the relationship between profitability and dividend payout to be insignificant. Thus his findings infer that debt might be relied on to sustain dividend payout, rather than used to meet short falls in internal funds.

Adedeji also found a negative relationship between dividend payout and investment. However, the relationship between financial gearing and investment was insignificant. Previous researchers have found a negative relationship between investment opportunities, measured by market to book values, and financial gearing. This is expected in relation to agency theory of debt. Adedeji's investment opportunity measure of average change in total assets is in line with growth measures employed by previous researchers. Therefore, the use of the term investment opportunities by Adedeji, in the context of previous research is somewhat confusing. However, his findings in terms of financial gearing and growth are not inconsistent with previous research.

Jordon, Lowe and Taylor (1998) investigated both financial and strategic determinants of capital structure in small/medium sized firms. They used a questionnaire to obtain information concerning the corporate and competitive strategies of firms, which they used in conjunction with financial statement data obtained from the FAME database. Multiple regression analysis, using alternative measures of financial gearing, was employed for 219 private and independent firms with turnover between £1m and £10m over the period 1989 to 1993. The purpose of their analysis was to determine whether firm strategy provided any additional explanatory power given the best financial model of capital structure. In contrast to other studies, multiple regression analysis was performed by omitting blocks of variables representing corporate strategy, competitive strategy and pecking order implications in order to assess the impact on explanatory power. Extensive diagnostic testing was also undertaken in order to establish the robustness of results.

The relationship between corporate strategy, on the basis of the degree of diversification adopted by firms and capital structure was found to be insignificant. However, Jordon et al. noted that this is hardly surprising in the context of small firms owing to a fairly limited spread of assets and activities. The relationship between competitive strategy and capital structure was found to be significant. Innovation strategies appear to be negatively related to debt, compared to a positive relationship between capital structure and both cost leadership and differentiation strategies. Jordon et al. concluded that in small firms this is more likely to reflect a reluctance to lend rather than a reluctance to borrow.

Jordon et al. used three variables to test the pecking order theory of capital structure. They found a positive relationship between debt and a dummy variable recording whether access to finance is important for firm performance. They, thus, concluded that retained earnings, the first preference in the pecking order, were unlikely to be sufficient. However, firms adopting high optimal debt levels under the trade-off theory might also place importance on access to finance. They may require access in order to increase debt levels as the costs and benefits of debt change over time. A positive relationship was found between debt and a dummy variable indicating whether access to finance has been a problem for a firm. Jordon et al. concluded that this suggests that firms have reached debt levels that outsiders deem to be the

prudent limit. The implication being that, firms will take on debt until the source is exhausted in line with the pecking order theory of capital structure. However, access problems to finance arise from lenders' perceptions of personal detriment if further debt is advanced. A firm could equally perceive the benefits of additional debt finance to outweigh the costs, in the process of optimising capital structure.

Jordon et al. claim to further substantiate the pecking order theory on the basis of a negative relationship between debt and the ratio of non-executive to executive directors. They suggest that, in small firms, non-executive directors are appointed in order to bring in extra equity capital. However, this can only really be substantiated by an analysis of the actual share-holdings of non-executive directors. The number of non-executive directors could equally be capturing some other firm characteristic.

The positive relationship found between financial gearing and variability of earnings, and the negative relationship found between financial gearing and effective tax rate are not consistent with the static trade-off theory of capital structure.

Bevan and Danbolt (2002) analysed the determinants of capital structure for a sample of 822 UK companies using a variety of book value and market value measures of gearing. They focused on the difficulties involved in measuring gearing and tested the sensitivity of Rajan and Zingales' UK results to variations in gearing measures. Bevan and Danbolt used measures of size, profitability, asset tangibility and investment opportunities as independent variables. In addition, total debt was decomposed onto long and short-term and various sub-elements. Although similar results were obtained in comparison to Rajan and Zingales , Bevan and Danbolt also found results to be model specific. For example, when total debt in the gearing measure was adjusted for trade credit and equivalent, a significant negative relationship with asset tangibility was found. This contrasted the positive relationship found with other gearing measures. Although a positive relationship was found between size and total debt, size appeared to be significantly negatively correlated with short-term bank borrowing. Bevan and Danbolt thus concluded that a full understanding of capital structure required a detailed analysis of all forms of debt

Ozkan (2001) focused on the dynamics of capital structure and the nature of adjustments to targets. He adopted a dynamic model with the use of panel data for 390 non-financial and non-utility UK firms over the period 1984 to 1996. The generalised method of moments (GMM) estimation process was used to control for firm specific effects. Ozkan found firms to exhibit long-term target ratios. Any adjustments to target appeared to occur relatively quickly, implying that the cost of being away from target and costs of adjustment were of equal importance to firms. Ozkan also found profitability, liquidity, investment opportunities and non-debt tax shield to be negatively related to debt.

Summary

The relationships between financial gearing and other characteristics of firms in the US, UK and elsewhere are summarised below. The summary is based on the predominant relationships observed, i.e. the relationships found by the majority of studies. The approach is similar to 'vote-counting' methods (Light and Smith, 1971) which have been previously used to quantify the research findings of several similar studies. In 'vote-counting', previous research was analysed by categorising each study's results into positive significant, non-significant and negative significant categories. Conclusions were based on resulting tallies. Vote-counting is no longer recommended because of poor statistical properties associated with its use (Wolf, 1986). The approach used to summarise previous findings in the present study differs in that relationships are only classed as positive, negative or insignificant when it clearly appears to be the case. A question mark is used to denote the situation when several studies have produced conflicting results and thus the relationship remains unclear. Although, the findings of previous studies could be analysed using a formal process of meta-analysis, in which the sample size, explanatory power, etc. of each study is taken into account, it is outwith the scope of this thesis.

Relationships between financial gearing and other firm characteristics:

Firm Characteristic	US Studies	International Studies	UK Studies
Size	**POS**	**?**	**?**
Variability of earnings	**?**	**?**	**POS**
Industry	**SIG**	**SIG**	**SIG**
Asset structure	**?**	**POS**	**POS**
Agency problems/ Uniqueness	**NEG**	**NEG**	**NEG**
Non-debt tax shield	**POS**	**INSIG**	**NEG**
Profitability	**NEG**	**NEG**	**NEG**
Marginal tax rate	**?**		**?**
Dividend payout	**POS**		**POS**
Growth	**?**	**POS**	**INSIG**
Investment opportunities	**NEG**	**NEG**	**NEG**
CEO / Management Ownership	**POS**		**INSIG**
Multi-nationality	**POS**		
Availability of cash flow			**POS**
Probability of default			**INSIG**
Market assessment of firm risk			**POS**
Liquidity			**NEG**
Corporate strategy			**INSIG**
Competitive strategy			**SIG**

Firm size appears to have a positive impact on debt levels in US firms but the relationship from International and UK studies is less clear. On balance, the relationship between variability of earnings and debt levels is somewhat mixed. The industry in which a firm operates appears to be influential. Firms investing in large proportions of research and development (measuring agency problems/uniqueness) appear to have lower debt levels, as do highly profitable firms. If investment in research and development represents the opportunity to invest in risky projects then this is consistent with the agency costs of debt.

A negative relationship between profitability and the use of debt is consistent with the pecking order preference for the use of internal funds. However, it is not necessarily indicative that the tax benefits of debt are unimportant. A highly profitable firm could obtain little benefit from interest tax shields in the presence of high levels of non-debt tax shields. Conversely, a firm with low levels of non-debt tax shields could benefit from interest tax shields even though it was not highly profitable. In the UK, the relationship between debt and non-debt tax shields appears to be negative. In contrast, US firms with high levels of non-debt tax shields appear to also exhibit high levels of gearing. However, high levels of non-debt tax shields represent high levels of investment in qualifying fixed assets and/or previous tax losses. If a firm has previous tax losses, internal profits are unlikely to provide sufficient finance. Also, in the pecking order theory, investment dictates the requirement for external finance. Thus the positive relationship between non-debt tax shields and debt could equally illustrate the pecking order theory rather than refute the importance of the interest tax shield benefit to debt. However, the importance of tax benefits is not widely established. Although in the US, Graham et al. combined profitability and non-debt tax shields in a measure of marginal tax rate and found a positive relationship with debt, Mehran et al. found a negative relationship using the same measure. Jordan et al. also found a negative relationship between the effective tax rate facing UK small firms and their levels of debt.

The level of debt appears to be positively related to dividend payout, another pecking order prediction. In the US, CEO ownership appears to be positively related to debt levels, as does firm multi-nationality. In the UK, the availability of free cash flow appears to be positively related to debt. This appears to be more consistent with the agency benefit to debt and a low financial distress potential, rather than the pecking order preference for internal funds. There is evidence to suggest a link between the competitive strategy and capital structure adopted by small/medium sized UK firms. Firms adopting product innovation or uniqueness strategies appear to employ less debt than firms adopting cost leadership or differentiation strategies.

In summary, the existence of relationships between certain firm characteristics and financial gearing is evident from previous cross-sectional studies. However, in certain instances, findings appear to be conflicting and there is difficulty in

interpreting precisely the relationship that explanatory variables are capturing. Moreover, it appears almost impossible to capture all possible relationships in one model, resulting in the undertaking of so many studies with a slightly different focus. Relationships are likely to exist between the various firm characteristics employed as explanatory variables. The absence of rigorous diagnostic testing in the majority of studies could, therefore be 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 to determine capital structure.

3.3.2 The *process* of how firm's determine their levels of debt and equity

Fama and French (1999) investigated the static trade-off versus the pecking order predictions for determining capital structure. They used cross-sectional regression models to determine how long-term gearing and dividend payout vary with the profitability, investment opportunities and earnings volatility across US firms. They were concerned as to whether gearing reverts to an average measure and whether dividends and/or debt are used to absorb short-term variation in earnings and investment. Their analysis involved year by year cross-sectional regression over the period 1965 to 1997 for a large sample (approximately 1549 per regression) of US firms. Average slopes were used to draw inferences. With reference to the pecking order predictions, profitable firms were found to have higher dividend payout, and firms with more investment opportunities to have lower payout. However, Fama and French failed to establish a relationship between gearing and investment. When investment opportunities were controlled for, profitable firms were found to exhibit lower debt levels. However, this is not conclusive evidence of what Fama and French claim is a failure of the static trade-off predictions. The existence of a static trade-off, is however, questioned in light of inconclusive evidence as to whether gearing is mean reverting.

Fama and French concluded that capital structure is determined by the pecking order in dividend paying firms. They note that new equity issues are trivial for dividend payers and there is little evidence to suggest that dividends vary to accommodate short- term variation in investment. They suggest that debt appears to

be the residual variable in financing decisions. However, in non-dividend paying firms more investments are financed with new equity issues, and debt is used to absorb short-term variation in earnings and investment.

Shyam-Sunder and Myers (1999) also viewed the pecking order and static trade-off as contending theories of capital structure. They constructed individual regression models based on the two alternative theories. In the pecking order, a firm is expected to issue debt when internal funds are insufficient for investment and maintaining dividend payout. On this basis, Shyam-Sunder and Myers proposed that deviations in the use of debt over time should be related to a deficit in the flow of firm funds. They derived this deficit from a comparison of outflows on dividend payments, capital expenditure, increase in working capital and repayment of existing debt, and inflows from operating cash flows after interest and taxes.

In the static trade-off theory, a firm operates at optimal capital structure. Shyam-Sunder and Myers thus proposed that changes in debt ratios should be explained by deviations in current debt ratios from targets. They used both historical averages and estimates according to firm characteristics used in prior cross-sectional capital structure studies as targets. For a sample of mature US corporations, the pecking order model was found to provide higher explanatory power. However, the static trade-off model also performed well when considered independently. Despite placing greater confidence in the pecking order model, Shyam-Sunder and Myers acknowledged that it might be less efficient in explaining the decision of a sample of growth companies investing heavily in intangible assets.

Frank and Goyal (2000) also tested the pecking order theory against the static trade-off using a broad cross-section of US firms over the period 1980 to 1998. Based on the ideas of Shyam-Sunder and Myers, Frank and Goyal tested the impact of each of the individual elements of fund flow deficit on corporate debt. They also considered whether the information set used to test the pecking order is appropriate, and whether the omission of other firm characteristics such as asset tangibility, market to book values, size and profitability is significant.

In contrast to Shyam-Sunder and Myers, and contrary to the pecking order predictions, Frank and Goyal found no evidence of corporate debt being determined by a financing deficit. However, firms were observed to revert to average debt levels in line with the static trade-off theory. Firms with low gearing were found to closely maintain it year by year, whereas firms with moderate gearing exhibited greater variation. When debt matured, it did not appear to be completely replaced and thus gearing declined. The relationship between dividend policy and debt was found to be dependent on firm size. Large firms appeared willing to borrow to pay dividends, whereas small firms appeared to pay dividends while reducing their debt.

Frank and Goyal's final conclusion that a simple observation of pre-existing gearing explains much more of the variation in gearing than all the financial factors put together is somewhat worrying. It echo's Miller's suggestion of neutral mutation.

3.3.3 Examination of previous decisions by firms to issue debt or equity

US based studies

In an early study, Taggart (1977) used a generalised least squares procedure to estimate his model of corporate financing decisions, and found non-financial corporations to base their decisions to issue debt and equity on the need for permanent capital and on their long-term debt capacity. Debt issues leading to excessive debt levels appeared to be counteracted by issues of equity. Taggart's evidence is frequently quoted in support of the static trade-off theory of capital structure. However, Taggart also concluded that a firm's capital increased to the extent it could retain earnings, while any shortfall appeared to be made up through debt and equity issues. Although equity did not appear to be issued only as a last resort, the primary use of internal funds is reminiscent of the pecking order theory.

Javiland and Harris (1984) also used a generalised least square procedure to examine the issues of debt and equity for 108 firms over the period 1966 to 1978. They found that firms appeared to adjust to long run financial targets, and the speed with which they adjust appeared to be affected by firm size, interest rate and the level of share price. The issue of debt seemed to be postponed in favour of short-

term debt and equity issues when lower long-term interest rates were expected. The use of equity was more apparent when a firm's share price was high. Javiland and Harris concluded that target amounts of debt were the driving force in financing behaviour.

Opler and Titman (1996) examined the determinants of financing choices when firms made significant changes in their debt and equity levels over the period 1974 to 1993. Their analysis involved two stages. Gearing ratios were regressed on many of the variables used in previous cross-sectional studies to obtain predicted ratios as proxies for optimal ratios. Differences between firms' actual and optimal ratios were then used in a logit analysis to predict when a firm issues debt or equity. Variables capturing deviations from targets such as past profitability, past share returns and market to book ratios were also included.

Results indicated that firms appear to move towards target debt ratios when altering their capital structure. The deviation between optimal and actual debt ratios was found to be a strong indication of future issues of debt and equity. Firms, which had been profitable in the past, were found to issue debt, whereas past share returns and market to book ratios were found to be positively associated with the likelihood of issuing equity.

Kochhar and Hitt (1998) examined the relationship between strategic diversification decisions and the characteristics of funds used to finance them, using a three stage least squares analysis. They considered the private and public issues of debt and equity for 187 large US traded manufacturing firms over the period 1981 to 1982. The time period was specifically chosen to avoid the downscoping and downsizing of firms in later years. Results appeared to suggest that an increase in unrelated diversification is a positive predictor of debt financing as a proportion of total new financing, whereas related diversification is a negative predictor. These findings are in line with the theoretical proposition that an increase in diversification is accompanied by a decrease in firm specific assets and thus financial distress potential.

Diversification by direct entry into another market, as opposed to acquiring a business in another market, appeared to be financed by private rather than public funds. However, this is not surprising if it is more difficult to assess the risk involved in direct entry and private finance provides the opportunity for a better exchange of information. Kochhar and Hitt concluded that not only does a firm's diversification strategy influence its capital structure, but capital structures influence diversification strategy.

Belkaoui (1999) also considered the relationship between capital structure and diversification strategy. However, rather than analyse debt and equity issues, he used analysis of covariance to examine adoptions of diversification strategies to determine whether firms issued debt as a result of adopting a multidivisional form. His sample comprised 62 firms adopting a diversification strategy within the time period 1950 to 1978. Firms were classed according to unrelated diversification (16 firms), related diversification (22 firms) and vertical integration (24 firms).

Overall the implication of a diversification strategy appeared to be associated with an increase in debt. However, in contrast to Kochhar and Hitt's findings, the increase was only significant for firms employing related diversification. However, the mean debt ratios of firms adopting unrelated diversification were found to be significantly higher than vertically integrated and related diversified firms. Belkaoui concluded that diversification strategy is a determinant of capital structure. However, his findings appear to partially support Kochhar and Hitt's conclusions. Firms with higher debt levels appear to undertake unrelated diversification strategies rather than the other way around.

UK based studies

In the UK, Marsh (1982) examined 748 issues of debt and equity made by firms over the period 1959 to 1970. A firm's choice of financing instrument was assumed to be a function of the difference between actual and target debt ratios, and a firm is likely to issue equity if the actual debt ratio exceeds target. As target debt ratios are unobservable, measures to determine targets such as historical averages, company size, and asset composition were used. Marsh used logit analysis to test the

predictability of his model on a further sample of 110 equity and debt issues between 1971 and 1974.

Overall findings suggested that the choice between debt and equity is heavily influenced by market conditions, and the past history of share prices in choosing between debt and equity. However, the choice appears to be made as if firms had target levels of debt in mind, when those below targets appeared to issue debt. In comparison with Javiland and Harris in the US, Marsh also found the issue of equity to be favoured in response to high share price.

In a later study, Walsh and Ryan (1997) examined the impact of tax and agency considerations on the decision to issue debt or equity. They identified 339 issues of debt and equity for Times 1000 firms during the period 1984 to 1991. They used proxies for agency costs and tax benefits in a binomial choice model, estimated using a method of maximum likelihood. Findings suggested that both agency and tax considerations are important. The average effective tax-rate of a firm and the fixed assets in place increase the probability of a debt issue. Non-debt tax shields and volatility decrease the probability of a debt issue. However, for a sub-sample of firms of similar size, agency effects appeared to dominate tax considerations. Walsh and Ryan's findings suggest that the costs and benefits associated with debt appear to be considered when issuing new finance.

Summary

In summary, there is evidence to suggest that firms in both the UK and US operate with target debt ratios. In addition, firms do not appear to be deterred from issuing equity when market conditions are favourable. In the UK, there is some evidence to suggest that the agency costs and tax benefits to debt are given consideration in the decision to issue new finance. These findings are more in line with the static trade-off theory of capital structure and refute the pecking order prediction that equity is only issued as a last resort.

Diversification strategy and the issue of debt also appear to be interrelated for US firms, with unrelated diversification being associated with higher debt levels.

3.4: Summary: Capital structure theory and evidence

The theory and empirical evidence in relation to the various benefits and costs of issuing debt is summarised in Table 3.13. There appears to be a mixture of both supporting and contradictory evidence in relation to the suggested outcomes of issuing debt. Previous survey evidence appears to totally contradict the importance of financial distress costs and agency costs and benefits to debt, whereas the evidence from previous accounting data based studies appears in support. However, there is evidence, from studies adopting both methods, to suggest that a degree of importance is placed on the interest tax shield benefit, asymmetrical information benefit and corporate control benefit to issuing debt. The theory and evidence in relation to certain strategic environments enhancing or reducing the benefits/costs of debt is summarised in Table 3.14. The evidence in support of the influences of competitive strategy, growth/expansion strategy, management/control strategy and investment location, is the product of accounting data based studies. Finally, the theory and evidence in relation to the *process* of how firms determine their debt ratios, the static trade-off theory versus the pecking order theory, is summarised in Table 3.15. There is supporting evidence, from studies adopting both methods, for both the static trade-off theory and the pecking order theory of capital structure.

On balance the process of determining capital structure appears to be a grey area, rather than a straight black or white choice between two alternative theories. There is little evidence to suggest debt ratios are purely the product of a trade-off between the costs and benefits of debt, or purely represent the requirement for external finance to meet dividend payout and investment opportunities. In reality, capital structure appears to arise from a combination of both. A firm's requirement for debt appears to be influenced by its profitability, dividend payout and capital expenditure. Profitable firms appear to acquire less debt inferring their preference for using internal funds, and changes in debt over time appear to relate to shortfalls in funds. However, firms do not appear to issue equity only as a last resort. They appear to operate with, at the very least, loose target amounts of debt; and these targets appear internally rather than externally constrained. A degree of importance appears to be attached to the interest tax shield of debt, although the direct costs of financial distress, namely bankruptcy, appear less of a concern. However, firms appear to have some awareness of their financial distress potential. Strategic

Table 3.13:Capital structure theory and evidence: The benefits and costs of issuing debt

CAPITAL STRUCTURE THEORY			EMPIRICAL EVIDENCE	
Outcome of issuing debt	**Environment enhancing benefit or cost**	**Environment reducing benefit or cost**	**Management's intentions/ perceptions: Surveys**	**Management's previous actions: Accounting data based studies**
Interest tax shield benefit to debt Interest charges reduce taxable income and increase return on equity to shareholders. Cost of debt is reduced so a greater return is obtained from the investments debt is used to finance	High marginal tax rates through high amounts of taxable income. Highly profitable firms, or firms with low levels of non-debt tax shields	Low marginal tax rates through low amounts of taxable income. Firms with low profitability, prior tax losses to offset against income. High levels of non-debt tax shields.	**Support:** In US, tax advantage of interest deductibility of moderate importance when choosing appropriate amount of debt (Graham & Harvey, 2001) Tax implications of financing decisions are important (Norton, 1989) **Contradiction:** Corporate tax rate, personal tax rates of debt and equity holders and level of depreciation and other non-debt tax shield not ranked highly important in financing decisions (Pinegar & Wilbricht, 1989)	**Support:** In UK negative relationship between debt & non-debt tax shields (Table 3.12). Effective tax rate increases probability of debt issue (Walsh & Ryan, 1997) In US some support of positive relationship between debt and simulated marginal tax rate (Graham et al., 1998) **Contradiction:** Firm profitability and debt not positively related (significantly negative relationship) (Tables 3.10, 3.11 & 3.12)
Financial distress cost to debt Bankruptcy if fixed payments from income not met. Debt holders may exercise option to force liquidation. Costs of potential financial distress: Reluctance by customers to pay high prices or even do business, employee demands for higher wages, suppliers charge higher prices. Equity holders have less incentive to contribute new capital as they would bear the cost of value increasing projects while returns would be captured by debt holders	Firms with high operating risk, smaller, more narrowly focused. Firms with fewer assets which are risky and intangible Product quality important but unobservable. Products requiring future servicing. Employees requiring specialised training. The above characteristics may be typical of firms operating in certain industries.	Firms with low operating risk, larger, diversified. Firms with large proportions of safe tangible assets Provision of non-durable products and services. Less specialised products whose quality is easily assessed. The above characteristics maybe typical of firms operating in certain industries.	**Contradiction:** Costs of bankruptcy not ranked as important in financing decisions (Pinegar & Wilbricht, 1989) 75% of respondents could not give a rough estimate of bankruptcy costs (Norton, 1989) Potential cost of bankruptcy, near-bankruptcy or financial distress were not rated as very important factors in choosing debt levels. Firms failed to acknowledge an industry influence Limiting debt so customers/suppliers are not worried about firm going out of business was not considered important (Graham & Harvey, 2001)	**Support:** Industry influence on debt levels is significant (Tables 3.10, 3.11 & 3.12) In the UK there is some evidence of large firms exhibiting higher debt levels than smaller firms (Table 3.12) Asset structure based on proportion of fixed tangible assets positively related to debt (Tables 3.10, 3.11 & 3.12). Product uniqueness proxied by proportion of research and development negatively related to debt (Tables 3.10, 3.11 & 3.12) **Contradiction:** Mixed evidence of relationship between operating risk and debt (Tables 3.10, 3.11 & 3.12)

Table 3.13 continued

CAPITAL STRUCTURE THEORY			EMPIRICAL EVIDENCE	
Outcome of issuing debt	**Environment enhancing benefit or cost**	**Environment reducing benefit or cost**	**Management's intentions/ perceptions: Surveys**	**Management's previous actions: Accounting data based studies**
Agency benefit to debt Debt commits the firm to pay out cash in interest payments, so amount of free cash' to managers is reduced. This provides less opportunity to transfer firm resources to personal benefit	Firms with large amounts of free cash flow. Firms in which lower levels of management have the opportunity to sanction expenditure for personal benefit	Firms with low amounts of free cash flow. Firms in which strict expenditure controls are in place. Flattened organisational structures where those making financing decisions also sanction expenditure	**Contradiction:** Little support that sufficient debt is used to ensure a large proportion of cash flow is committed to interest payments to encourage management efficiency (Graham & Harvey, 2001)	**Support:** In the UK, availability of free cash flow appears positively related to debt (Table 3.12)
Agency cost to debt The return on investments financed by debt decrease if debt holders anticipate that equity holders will benefit from investing in very risky projects at their expense. Debt contracts might include interest coverage requirements and prohibitions against investing in new unrelated lines of business	Firms with growth opportunities to expand in new directions Firms with low initial cash flows Managers who are not adverse to taking risks	Firms in industries in which the opportunities for investing in risky projects (asset substitution) are limited. Mature industries. Operations which yield large cash flows Managers who pursue relatively safe projects out of adverse reputational considerations. The issue of convertible debt, debt holders become shareholders.	**Contradiction:** No evidence that agency cost considerations influence capital structure decisions. No evidence that agency costs play a role in the issue of convertible debt (Norton, 1989; Graham & Harvey, 2001)	**Support:** Negative relationship between investment opportunities proxied by market to book ratios and debt (Tables 3.10, 3.11 & 3.12) If proportion of research and development represents opportunity to expand in new direction then negative relationship with debt (Tables 3.10, 3.11 & 3.12) Agency costs important in the decision to issue debt in UK (Walsh & Ryan, 1997)
Asymmetrical information benefit to debt If equity is underpriced, using debt to finance new projects prevents existing shareholders losing out to new shareholders, and prevents under investment. Using debt prevents a drop in share value resulting from the information (that equity is over priced) conveyed by an equity issue	In firms with little tangible assets relative to firm value, under investment problem occurs more often.	If equity release is timed in accordance with information release such as annual reports, then equity should be more accurately priced.	**Support** Recent changes in share price are an important factor in capital structure decisions (Graham & Harvey, 2001) **Contradiction:** Most managers do not oversignal firm value through capital structure adjustments (Pinegar & Wilbricht, 1989)	**Support:** Announcements of new equity issues are reacted to by decline in share price (Asquith & Mullins, 1983; Masulis & Korwar, 1986; Mikkelson & Partch, 1986). Neutral reaction to debt issues (Eckbo, 1986). Level of debt positively related to dividend pay out (Tables 3.10 & 3.12) New equity issues trivia for dividend paying firms (Fama & French, 1999)
Using debt enables internal funds to be used to maintain dividend payout, when funding new investment. Adjusting dividends gives an adverse signal and results in decrease in share value(Asquith & Mullins, 1983)	Firms with extensive investment opportunities or fluctuations in earnings	Firms with fewer growth opportunities	No support for the view that financial decision makers believe the decision to issue debt or equity signals any information to financial markets about information that management possesses (Norton, 1989)	**Contradiction:** Firms more likely to issue equity when share prices have risen (Marsh, 1982; Taggart, 1977)

Table 3.13 continued

CAPITAL STRUCTURE THEORY			EMPIRICAL EVIDENCE	
Outcome of issuing debt	**Environment enhancing benefit or cost**	**Environment reducing benefit or cost**	**Management's intentions/ perceptions: Surveys**	**Management's previous actions: Accounting data based studies**
Corporate control benefit to debt Debt does not carry voting rights	In a takeover attempt, assuming the existing management will not tender his share, a rival must purchase 50% of shares from passive investors assuming they vote for existing management in takeover contest. The larger the management stake the larger the fraction of the passive investor's shares that must be acquired by the rival. If takeover is successful, increasing the use of debt increases the takeover premium. However, the increase in the use of debt decreases the probability of takeover success.	Management may obtain more benefit from the capital gain on their stake against the loss of any benefits derived from being in control. The expected benefits of control decrease with debt levels, so in firms with high debt levels fighting for cxntrol may not be worth it. Firms which are unpopular take over targets.	**Support** Moderate evidence that equity issues are influenced by the desire to dilute the holdings of certain shareholders indicates corporate control is a consideration (Graham & Harvey, 2001) ***Contradiction:*** Voting control not ranked to be very important in financing decisions (Pinegar & Wilbricht, 1989)	**Support:** In US, debt issued in exchange for equity results in positive abnormal share returns (Masulis, 1983) Abnormal price increases following leverage increasing capital structure exchanges observed to be positively related to changes in managerial share holding (Cornett and Travlos, 1989).

Table 3.14:Capital structure theory and evidence: Strategic environments enhancing or reducing the benefits/costs from issuing debt

CAPITAL STRUCTURE THEORY					EMPIRICAL EVIDENCE
Strategic Environment	**Resultant outcome**				**Management's previous actions: Accounting data based studies**
Competitive Strategy Cost Leadership ⇩ Product Differentiation ⇩ Product Innovation	Tangible and flexible assets ⇩ Firm specific assets not easily redeployed	Low financial distress potential ⇩ High financial distress potential	Collateral ⇩ Lack of collateral	High debt levels ⇩ Low debt levels	Innovation strategy negatively related to debt, and positive relationship between debt and costs leadership and differentiation strategies for small/medium UK firms (Jordon, Lowe and Taylor, 1998) Uniqueness proxied by research and development and advertising negatively related to debt (Tables 3.10, 3.11, 3.12)
Growth/Expansion Strategy Vertical Integration ⇩ Related Business Diversification ⇩ Unrelated Diversification	Higher operating risk ⇩ Lower operating risk	High financial distress potential ⇩ Low financial distress potential	Higher need to process/ coordinate information ⇩ Lower need to process/ coordinate information	Low/High debt levels ⇩ High/low debt levels	US Firms with related diversification strategies found to have lower debt ratios than firms with unrelated diversification strategies (Barton, Hill and Sundaram, 1989) Increase in unrelated diversification is a positive predictor of debt financing as a proportion of new financing, whereas related diversification is a negative predictor. (Kochhar and Hitt, 1998) Mean debt ratios of firms adopting unrelated diversification significantly higher than vertically integrated and related diversified firms, but only a significant increase in use of debt by firms adopting related diversification- more information processing (Belkaoui, 1999)
Management/Control Strategy Centralised control Divisionalised control	More opportunity for management to procure personal benefits ⇩ Less opportunity for management to procure personal benefits		Higher agency costs ⇩ Lower agency costs	Lower debt ⇩ Higher debt	Belkaoui (1999) observed general increse in debt levels for firms undertaking a diversification strategy which results in a multidivisional form of organisation
Investment Location National market and International market	Multinationality firms can take advantage of lower country risk, interest rates and the strength of different currencies. Therefore, multinational countries might be excpected to have higher levels of debt. They also have diversified cash flows to support it. (Depends on the characteristics of the countries in which firms invest).				High multinational firms shown to have higher debt ratios (Belkaoui, 1999) Most popular reason for issuing debt in foreign countries is to provide a natural hedge against currency devaluation (Graham and Harvey, 2001)

Table 3.15:Capital structure theory and evidence: The process of determining debt ratios: Static trade-off versus pecking order theory

STATIC TRADE-OFF THEORY

Implications	Empirical Evidence in support	
	Management's intentions/ perceptions: Surveys	**Management's previous actions: Accounting data based studies**
Firms operate with a target debt/equity ratio at which costs and benefits of issuing debt are balanced	UK and US Firms have target debt ratios (Fawthrop and Terry, 1975; Scott and Johnson, 1982) Graham and Harvey (2001) found 37% of respondents to follow a flexible target, 34% a somewhat tight target and 10% a strict target.	US and UK firms appear to move towards target debt ratios (Marsh, 1982; Javiland and Harris, 1984; Opler and Titman, 1996; Frank and Goyal, 2000) Changes in debt ratios explained by deviations in current debt ratios from target (Shyam-Sunder and Myers, 1999) Debt issues leading to excessive debt levels counteracted by equity issues (Taggart, 1977)

PECKING ORDER THEORY

Implications	Empirical Evidence in support	
	Management's intentions/ perceptions: Surveys	**Management's previous actions: Accounting data based studies**
Firms relate profit and growth opportunities to their long-term target dividend pay-out ratios in order to minimise the need for external funds. Investment opportunities and dividend pay-out dictate amount of internal funding.	Debt used by Australian firms to meet investment funding shortfalls and to permit the maintenance of dividend payments (Allen, 1991) UK firms try to maintain spare borrowing capacity (Allen 1991) Capital structure is less binding than either investment or dividend decision (Pinegar and Wilbricht,1989) Financial flexibility found to be important factor in capital structure decisions. Firms restrict debt so they have enough internal funds available to pursue new projects when they come along (Graham and Harvey, 2001)	The degree of debt financing rises and falls with the extent of capital expenditure relevant to available internal funds in US corporations (Taggart, 1985) Negative relationship between profitability and debt levels (Tables 3.10, 3.11 and 3.12) Positive relationship between dividend pay-out and debt levels (Tables 3.10 and 3.12) Negative relationship between dividend pay-out and investment (Adedeji, 1998; Fama and French, 1999) Profitable firms have high dividend pay-out. Equity issues trivial for dividend paying firms. Little evidence to suggest dividends vary to accommodate short-term variations in investment, so debt appears to be residual variable in financing decisions (Fama and French, 1999) Changes in debt over time found to be related to deficit in flow of firm funds (Shyam-Sunder and Myers, 1999)

environments categorise firms with similar characteristics. Innovative firms appear to employ less debt and unrelated diversified firms appear to employ more debt in response to their respective financial distress potential. Although there is some empirical support for the importance of agency benefits/costs to debt, it arises from accounting data based studies. In the absence of any survey-based evidence, the variables used to proxy agency costs and benefits in these studies might equally be capturing some other relationship.

In short, perhaps Myers (1984) suggestion of a modified pecking order is more realistic? Firms prefer to use internal funds followed by debt. However, the asymmetrical information argument to using debt is not the only consideration. Other benefits and costs enter the equation, and there comes a point when the cost of increasing the proportion of debt in relation to equity outweighs the benefits. Hence the observation of target ratios. How and why firms decide where this point is appears to remain somewhat of a mystery. In addition, target ratios may not necessarily represent the optimal benefit from using debt if firms retain an ability to borrow more in the event of the unexpected.

Empirical evidence in the UK appears fairly limited. In addition, an element of the previous evidence obtained in the US, UK and elsewhere could be considered somewhat outdated in relation to the present business environment. The empirical evidence that does exist in the UK is almost entirely based on the use of accounting data. Different studies have focused on certain aspects of capital structure, but their approach appears to prohibit an investigation of the entire picture. The survey method extends the scope of such an investigation and provides the opportunity to establish the relative importance of all theoretical issues. A survey of capital structure determinants in the UK thus appears an essential and long over due empirical input to the overall debate.

3.5 Theoretical reasons for leasing

The use of leasing in the UK grew substantially during the 1970's and early 1980's. It has been widely proposed that such sustained growth owed itself to an environment in which tax rules were favourable and specific accounting regulation in respect of leasing absent. Over time, the tax implications and accounting regulations have changed. A 25% writing down allowance has replaced the 100% first year capital allowance, and the introduction of SSAP21 has resulted in the balance sheet capitalisation of finance leases. Despite this, leasing has remained popular, suggesting that continuing benefits must be derived from its use. Several authors[5] have considered reasons why leasing may be considered preferable to financing purchase by non-leasing debt alternatives. These reasons can be grouped into four categories: tax savings; borrowing capacity; conflicts of interest and repayment; risk sharing and other financial/transactional reasons.

3.5.1 Tax savings

In a lease agreement, legal ownership and the right to claim capital tax allowances remains with the lessor. If the lessor can make better use of capital tax allowances than the lessee, then potential lessees may be enticed with the offer of lower rental payments (Smith and Wakeman, 1985; Schallheim, 1994; Belkaoui, 1998; Day, 2000). This benefit is only applicable if the leased asset is qualifying plant and machinery, and if the lessee has insufficient use for capital allowances (i.e. low levels of taxable profits, losses carried forward or high levels of other tax shields). Even if potential lessees can themselves utilise capital allowances, Drury and Braund (1990) suggested that both parties could still benefit from leasing. Timing differences in accounting year ends could enable the lessor to make use of tax allowances earlier than lessee, or the lessor might be able to borrow at a lower rate than the lessee. However, any benefit derived from capital allowances was curtailed by the 1997 Finance Act. New rules were introduced resulting in capital expenditure in respect of *finance* leases being time apportioned in the first year. The writing down allowance was also reduced to 6% in respect of long-life (25 year) capital expenditure.

[5] Smith and Wakeman (1985); Schallheim (1994); Belkaoui (1998) and Day (2000)

Any benefits from the transfer of capital allowances to the lessor are reduced if the lessor obtains less benefit from capital allowances than the lessee. New tax rules have been introduced increasing the benefits to small-medium sized companies. Qualifying capital expenditure by these companies now receives a 50% written down allowance in the first year with 12% for long-life assets.

Leasing can provide the opportunity to bring any tax savings forward. At the outset, the lease rental payment or interest plus depreciation of the asset can exceed the interest payment on borrowing plus the writing down capital allowance. This is true in respect of capitalised finance leases for qualifying assets with a useful life of four years or less. When assets are depreciated over periods of longer than six years, writing down capital allowances will exceed depreciation in the first few years. Tax savings on behalf of the lessee may still arise even though an asset does not qualify for capital allowances because lease rentals paid are tax deductible. Although the increased cost of lease rentals, imposed to compensate the lessor for the absence of capital allowances, may reduce the tax savings, leasing can still potentially be beneficial. This is especially true if the lessee makes rental payments in respect of commercial buildings/offices and if the lessor is of non-tax paying status.

3.5.2 Borrowing capacity, conflicts of interest and repayment reasons

The theoretical relationship between lease and debt finance, and thus the impact of leasing on debt capacity is discussed in section 3.9 of this chapter. However, it is suggested (Schallheim, 1994; Day, 2000) that leasing might be used to extend a firm's capacity for borrowing if managers perceive that leasing obligations consume less or even no debt capacity compared to non-leasing debt alternatives. Further, it is suggested that lease agreements contain less restrictive covenants and thus have less impact on obtaining future finance (Smith and Wakeman, 1985; Schallheim, 1994; Day, 2000).

Restrictive covenants are used to mitigate conflicts of interest between debt holders and shareholders, and may restrict investment in riskier projects, designed to potentially benefit shareholders. Leasing, being a high priority claim is said to limit the risk and consequently may reduce under-investment (Stulz and Johnson, 1985).

Therefore, firms with growth/investment opportunities are more likely to employ leasing (Barclay and Smith, 1995).

Smith and Wakeman (1985) suggested that conflicts of interest between lessee and lessor are more likely to arise if assets are firm specific. The lessor attempts to capitalise on the fact that these assets are critical and alternatives are not easily available. Thus firms with specific/specialised assets are likely to be deterred from leasing.

Leasing can be arranged for any size of operations. It is equally available for individual assets, smaller scale operations and larger scale acquisitions; whereas medium/long-term debt is usually arranged on a large scale (Schallheim, 1994; Belkaoui, 1998). Leasing might be classed as revenue expenditure and thus has the potential to avoid the formal sanctioning process applicable to capital expenditure (Schallheim, 1994; Day, 2000). However, this is likely to be limited to assets financed under operating lease agreements.

Leasing may be favourable to other forms of borrowing in terms of cash flow considerations. It provides 100% finance for an asset with a limited deposit of a rental payment in advance. Lease agreements are flexible, incorporating features such as balloon rentals to enable repayment to accommodate fluctuations in cash flows (Schallheim, 1994; Day, 2000). However, in today's competitive financial environment, this kind of flexibility may also be incorporated into other non-leasing forms of finance.

3.5.3 Risk sharing reasons

Operating leases are said to reduce the risk of obsolescence and provide the flexibility to obtain modern or upgraded equipment (Smith and Wakeman, 1985; Schallheim, 1994; Belkaoui, 1998; Day, 2000). This is beneficial for firms whose assets are continually changing with technology. If lessors have a diversified portfolio, then the cost of obsolescence can be borne more cheaply, reflected in the cost of rental payments. However, if assets are highly specialised then the lessor is unlikely to be able to bear the cost of obsolescence any more cheaply than the lessee.

Lessors may be in a better position to acquire standardised assets, which they supply to numerous lessees, through bulk purchase (Smith and Wakeman, 1985; Schallheim, 1994; Day, 2000). This could be beneficial to small firms who suffer from diseconomies of scale. However, large firms may themselves be in a better position to acquire purchase discounts, and the introduction of the lessor, a third party between the buyer and seller may actually result in a higher purchase price. This may not necessarily deter large firms from leasing if they can achieve the 'best of both worlds' through sale and lease back arrangements. Lessors may have easier access/more opportunity to dispose of equipment at the end of a lease agreement, which could be reflected in lower rental costs, or benefit lessees if they participate in disposal proceeds. This could be important in relation to standardised assets, generally required for less than their economic lives.

Leasing eliminates the risk of significant costs of transferring ownership. This is beneficial in relation to the transfer of ownership of assets such as property, when the legal fees and taxes are significant.

3.5.4 Other financial/transactional reasons

Despite the introduction of SSAP21 requiring finance lease capitalisation, leasing could still be favoured for its 'off balance sheet' nature. Operating lease rentals remain expensed in the profit and loss account, with neither the leased asset nor liability appearing on the balance sheet. SSAP21 is said to provide the opportunity for lease agreements to be classified as operating leases, and managers appear unwilling to disclose methods used in lease classification (Loveday, 1994). Tweedie and Whittington (1990, p.88) noted, when considering current problems in financial reporting, 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'.

If managers benefit from compensation schemes or bonus linked to balance sheet ratios, then operating leases may be used to increase return on investment using operating leased assets without increasing investment (Smith and Wakeman, 1985).

If managers are also shareholders, they may perceive operating leases to have a less adverse effect on firm value as the market does not fully anticipate the balance sheet impact of operating leases.

It is suggested that the application process for lease finance is easier than with other sources of finance, and carries minimum paper work (Day, 2000). Also, leasing is conveniently offered at points of sale. The overall cost of an asset may be reduced if a manufacturer offers advantageous lease terms. It is also suggested that leasing can provide an economical means of obtaining excellent servicing and maintenance of equipment (Belkaoui, 1998).

3.5.5 Summary

The various reasons for leasing are summarised in Figure 3.3. It is apparent that the use of leasing may not only be determined in terms of cost, but also for more practical reasons. Although tax savings and 'off-balance sheet' benefits to leasing have eroded over time, they are still suggested as playing a part in the decision.

Many of the benefits/costs of issuing debt, identified in section 3.1, are equally applicable to leasing. However, the benefits identified in this section suggest why leasing might be considered preferable to non-leasing debt alternatives. These additional benefits to leasing along with characteristics/environments enhancing or mitigating these benefits, are summarised in Table 3.16. A firm with high and low levels of leasing might be expected to exhibit the characteristics listed respectively.

Although many firm characteristics promote either high or low levels of both leasing and non-leasing debt, there are certain areas of conflict. Firms with high marginal tax rates are expected to have high levels of debt (interest tax shield benefit, Table 3.1). However, firms with high marginal tax rates can benefit from using their own capital tax allowances, and have less incentive to lease. Firms with management compensation schemes are expected to exhibit low levels of debt, as the requirement of debt to reduce conflict of interest between shareholders and managers in maximising firm value is minimised (Table 3.1). However, firms in which management benefits from compensation schemes/bonus linked to returns on

Figure 3.3: Theoretical reasons for leasing

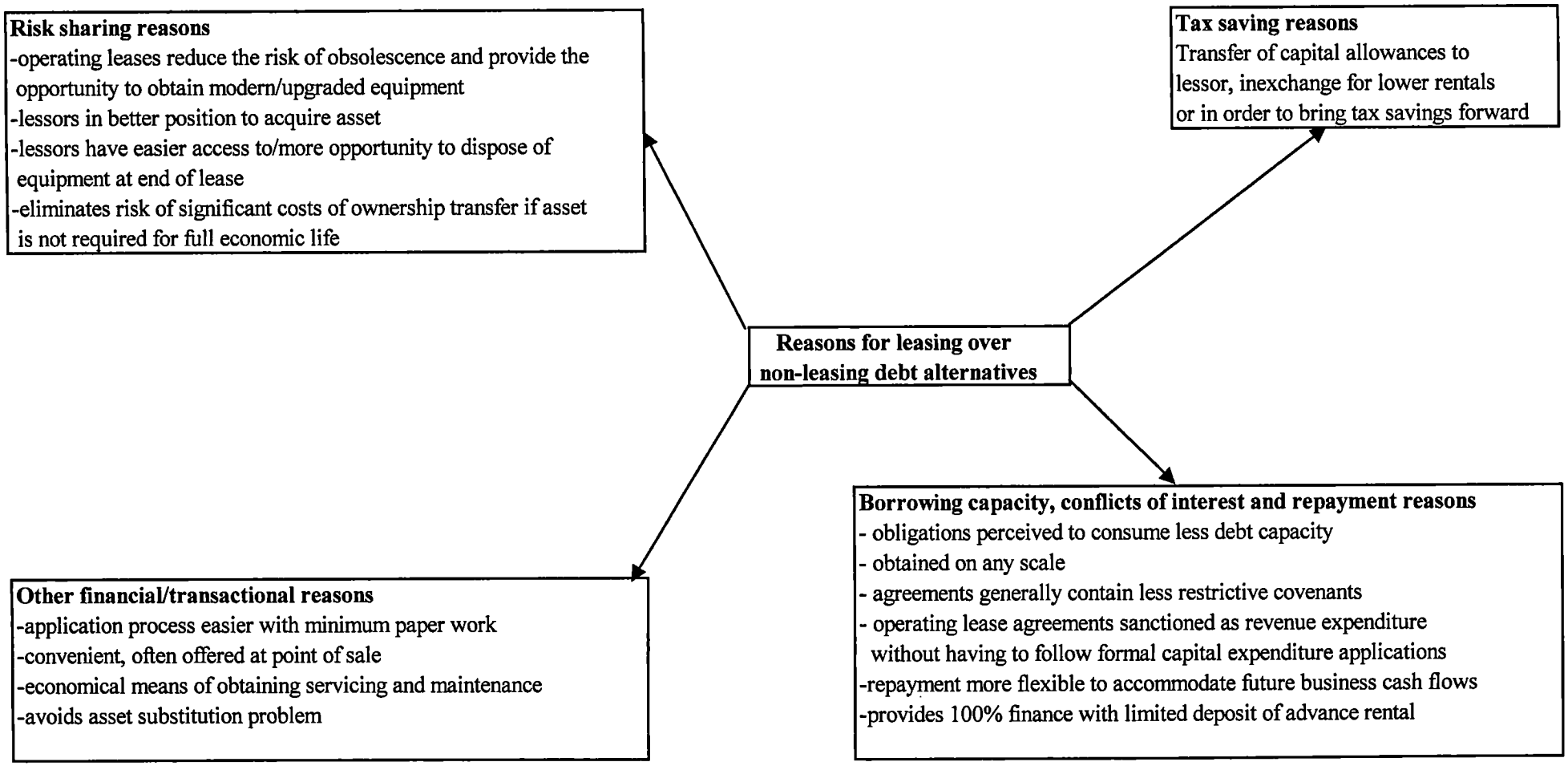


Table 3.16: Characteristics/environments promoting high/low levels of leasing

Theoretical basis	Benefit/cost of leasing to shareholders and/or managers	Characteristic/Environment Promoting:	
		High levels of leasing	Low levels of leasing
Tax savings: Transfer of capital allowances in exchange for lower rentals	Benefit	*Qualifying plant & machinery *Lessee has insufficient use for capital allowances *Operating lease expenditure (not time apportioned)	*Non-qualifying asset *Lessee makes better use of capital allowances - small/ medium sized firms *Long life capital expenditure
Opportunities to bring tax savings forward		Useful life<= 4 years	Useful life>6 years
Lease rental tax deductible		*Non-qualifying assets *Non-tax paying lessor	
Impact on debt capacity: Leasing perceived as having less impact on debt capacity than non-leasing alternatives - ability to extend debt capacity	Benefit	Firms near their capacity for debt	Firms with low levels of debt
Less restrictive covenants: Leasing mitigates under investment	Benefit	Firms with high growth/ investment opportunities	Mature firms with little growth /investment opportunities
Agency costs Conflicts between lessor and lessee	Cost	Standardised/readily available assets	Specialised/ firm specific assets
Any scale of operations: Leasing available for any scale of assets, medium-long term debt usually on a large scale	Benefit	Small scale operations, individual assets	Large scale operations
Avoidance of capital expenditure application process: Operating leased assets classed as revenue expenditure	Benefit	Firms with strict & lengthy capital expenditure application process	Firms in which capital expenditure application poses no problem
Cash flow considerations: 100% finance with limited deposit of advance rent	Benefit	Limited cash flow	Abundant cash flow
Flexible repayment features		Seasonal fluctuations in cash flow	Constant/steady stream of cash flow
Off- balance sheet financing: Operating leases used to increase ROI without increasing investment	Benefit	Managers benefiting from compensation schemes or bonus linked to ROI	
Risk sharing: Operating leases reduce risk of obsolescence, and provide flexibility to obtain modern or upgraded equipment	Benefit	Firm assets constantly changing with technology	Assets on which technology has limited impact
Lessor has the ability to bear costs of obsolescence cheaper than lessee, reflected in lower rental costs		Firms with standardised assets	Firms with specialised assets
Lessors ability to acquire standardised assets through bulk purchase		Small firms - suffer from dis-economies of scale	Large firms - better position to negotiate
Lessors ability to dispose of leased assets at end of useful economic life			
Leasing eliminates the risk of significant costs of transferring ownership		Leased property where legal fees and taxes are significant	
Convenience: Leasing has an easier application process, minimum paper work	Benefit	Situations when finance required instantly	
Lease finance offered at point of sale			
Economical means of obtaining servicing and maintenance		Assets requiring servicing and maintenance	Firms capable of servicing and maintaining themselves

investment are expected to exhibit high levels of 'off-balance sheet' operating leases.

Firms with abundant cash flows are expected to exhibit high levels of debt due to a lower financial distress potential and lower agency costs in terms of restrictive covenants (Table 3.1). However, firms with abundant cash flows have less requirement for the 100% finance or flexible repayment features of leasing. Owing to the greater restrictive covenants imposed in debt contracts, growth firms or firms with extensive investment opportunities are likely to exhibit low levels of debt and high levels of leasing. Firms with limited investment opportunities are also likely to exhibit lower debt levels in accordance with the pecking order theory (Table 3.1).

Firm Characteristics promoting conflicting levels of both leasing and non-leasing debt

Firm Characteristic	**Levels of Leasing**	**Levels of Non-Leasing Debt**
High marginal tax rate	Low Levels: Own use of capital allowances	High Levels: Benefit from interest tax shield
Management compensation schemes linked to balance sheet ratios	High Levels of 'off-balance sheet' operating leases	Low Levels: Minimum agency problems between shareholders and managers
Abundant cash flows	Low Levels: Less requirement for finance or flexible repayment	High Levels: Low financial distress potential
High growth or investment opportunities	High Levels: Less restrictive covenants	Low Levels: Greater restrictive covenants

Reasons for leasing: Prior evidence

Prior researchers have investigated the use of leasing using two alternative approaches. The intentions/perceptions of corporate managers in leasing decisions have been investigated by survey, and accounting/company data has been used in order to observe leasing choices.

3.6 Leasing survey-based prior research

The majority of research adopting a survey approach is UK based, and then conducted before the introduction of SSAP21 and prior to the current tax status.

UK surveys prior to SSAP21 and tax changes

Fawthrop and Terry (1975) investigated how UK corporate financial managers perceived and used leasing in a questionnaire based survey. The timing approximately coincided with growth in the use of leasing in the UK. Responses were obtained for 54 major corporations, and were explored during subsequent interviews. A summary of the questions asked in relation to leasing, and the responses provided is shown in Table 3.17.

A significant use of leasing was evident amongst respondents, with plant and machinery being the most common type of asset leased. However, as Fawthrop and Terry failed to report how many of the 54 corporations didn't use leasing, it is difficult to establish the extent to which respondents leased only certain types or all types of asset.

On balance, leasing was considered more expensive. Fawthrop and Terry suggested that 'some company executives still rely on vague perceptions and intuitive guesses rather than economic analysis'. This suggestion was based on 25 respondents admitting to intuitively considering leasing to be more expensive. It is unclear whether Fawthrop and Terry were implying that leasing might not be more expensive or that respondents should adopt an analytical approach. Irrespective, 33 respondents considered leasing to be more expensive on the basis of detailed comparative cost studies. Further, it is unclear how many of the respondents who intuitively consider leasing to be more expensive, went on to perform comparative cost analysis. Fawthrop and Terry claimed to show that different leasing policies are

Table 3.17: A summary of the leasing issues explored, questions asked and responses provided in Fawthrop and Terry's (1975) survey

Issues explored	Abbreviated question	Response		
Use of lease financing	Does your company use, or has it used leasing?	last 2-3 yr	Now	Consider
	For plant and machinery	18 firms	32 firms	7 firms
	For goods vehicles	15 firms	15 firms	7 firms
	For company cars	13 firms	12 firms	10 firms
	For any other equipment	17 firms	17 firms	10 firms
	Not at all	9 firms	6 firms	3 firms
Lease-debt substitutability	In thinking about lease/debt ratios, would you include leasing?	YES		NO
		13 firms		30 firms
Factors determining the use of leasing	If your company used, uses or will use leasing, do any of the following factors apply?	Very Relevant	Relevant	Irrelevant
	* The need was/is/will be urgent, no other funds being available, i.e. leasing is 'emergency funding'	7 firms	4 firms	28 firms
	*Leasing is part of a 'planned financing mix'	17 firms	12 firms	12 firms
	*Leasing is 'spill-over' financing, i.e. covers deficiencies or short falls in planning	7 firms	6 firms	25 firms
	*Leasing is 'off-balance sheet' finance and so:			
	(a) does not affect borrowing capacity	8 firms	15 firms	18 firms
	(b) Improves the apparent return on capital employed	4 firms	14 firms	19 firms
	*Because your company has very large capital allowances, any new equipment would be unable to benefit fully from the 100% first year relief and so leasing was used as an alternative	8 firms	5 firms	25 firms
Evaluation of the leasing decision	When evaluating a lease proposal do you make the decision upon:	YES		NO
	(a) whether the interest rate implicit in the lease repayment is higher or lower than a specified interest rate	21 firms		4 firms
	or			
	(b) an aggregate of lease repayments, operating costs and revenues generated by the project, clearing a DCF hurdle rate?	17 firms		5 firms
Cost of leasing	Do you consider leasing to be an expensive form of finance in relation to other sources?	YES		NO
	Intuitively	25 firms		6 firms
	By detailed comparative costs	33 firms		12 firms

a product of the financial circumstances facing a company. This is perhaps justified considering that the relevance of factors in determining the use of leasing was not universally established.

Sykes (1976) examined the leasing practice in 202 British Institute of Management member companies. A summary of the evidence obtained is shown in Table 3.18. The advantages of finance leases, operating leases and hire purchase were investigated separately. As this research was conducted prior to the introduction of SSAP21's definitions of finance and operating leases, it is not clear how the classification was made. This is especially true when 23 companies indicated that finance leases have the advantage of reducing capital involvement with the maximum potential loss reduced, as the lease can be terminated prematurely. Leases, classified as finance leases under SSAP21, can be terminated early, but the amounts outstanding in respect of capital repayment must be paid regardless, usually along with a penalty amount of interest.

Leasing and hire purchase did appear to be accepted by a number of companies as providing additional sources of funds, mainly in terms of cash flow advantages. The importance of immediate availability of tax allowances when leasing equipment was not established across all respondents. Sykes found that in many cases this was because taxable profits were thought to be insufficient to absorb capital allowances or group relief could be utilised. He also found that large companies (annual turnover>£1000million) placed more importance on tax allowances.

Tomkins, Lowe and Morgan (1979) investigated the significance of leasing to small UK firms. They used a system of allocating 100 points over a number of reasons for leasing to indicate the relative importance. A summary of the evidence obtained is shown in Table 3.19. Unfortunately, only 17 small companies were found to lease, in comparison to 167 who gave reasons for not leasing, mainly because of limited investment opportunities financed from other sources. Of the minority engaged in leasing, it seemed to be in order to avoid capital outlay, or because no other sources of finance were available at the time.

Table 3.18: A summary of the evidence from Sykes's (1976) survey

Issues explored	Abbreviated question	Response		
		Hire purchase (n=193)	Operating leases (n=185)	Finance leases (n=175)
Advantages of leasing	Advantages of leasing as a source of funds:			
	*Provides source of funds-does not utilise existing working capital	67 firms	76 firms	67 firms
	*Usually permits 100% financing-full cost of asset can normally be borrowed, secured only on that asset	23 firms	37 firms	29 firms
	*Less restrictive source of finance-no dilution of equity, no dependence on solvency	22 firms	28 firms	22 firms
	*Undisclosed source of finance-gearing effectively increased without disclosure on balance sheet	-	29 firms	23 firms
	*Reduced capital involvement-maximum potential loss reduced, as lease can be terminated prematurely	-	21 firms	23 firms
	Budgetary advantages of leasing			
	*Smoothes cash flow	45 firms	48 firms	41 firms
	*Hedge against inflation-removes problems of possible increase in interest rates	19 firms	22 firms	17 firms
	*Budgetary accuracy	17 firms	21 firms	22 firms
	*Stability-terms independent of market conditions or changes in government policy	15 firms	17 firms	15 firms
	*Flexibility of contract-may be drawn up to suit the needs of the lessee, e.g.repayments timed to suit cash flows	-	30 firms	21 firms
Tax implications	The importance of immediate availability of tax allowances when leasing equipment		(n=193)	
	*Vitally important		7%	
	*Important		19%	
	*Undecided		9%	
	*Relatively unimportant		34%	
	*Totally unimportant		31%	

Table 3.19: A summary of the evidence from Tomkins, Lowe and Morgan's (1979) survey

Issues explored	Abbreviated question	Response		
		Operating leases (n=16)	Finance leases (n=2)	All leasing (n=17)
Reasons for leasing	Reasons why small company lessees are leasing			
	*No large capital outlay	75.9%	50%	71.5%
	*Asset not on balance sheet	2.5%		2.4%
	*Savings on administration of assets	1.6%		1.5%
	*Stabilised financing arrangements	1.6%		1.5%
	*Taxation advantage	3.1%		2.9%
	*Other (No other source of finance available at the time)	15.3%	50%	20.3%
Reasons for not leasing	Reasons why some small companies do not lease		(n=167)	
	*Did not think of it		0.7%	
	*Aware of existence of leasing but no ready information		1.5%	
	*Leasing was too expensive		26.8%	
	*Local bank manager more sympathetic in difficult times		8.7%	
	*Other (Limited investment financed from other sources)		62.3%	

Hull and Hubbard (1980) investigated the attitudes and decision criteria of 1000 potential lessees in a questionnaire survey, in addition to samples of lessors and lease-brokers. A response rate of approximately 30% was obtained, and subsequent interviews were held. A summary of the questions put to potential lessees and responses provided is shown in Table 3.20.

Hull and Hubbard concluded that non-tax paying reasons for leasing are important. However, they don't appear to have explicitly investigated the importance of tax, rather they have associated it with leasing being cheaper than purchase. This is surprising given their suggestion that the importance of tax should not be understated. They also appear to believe that the high growth in leasing following the introduction of 100% first year allowances, when many companies had no mainstream corporation tax liabilities, was more than just a coincidence.

Hull and Hubbard claimed to identify a gulf between the theory and practice of lease evaluation, on the basis that only 49% of respondents used discounted cash flow and many appeared to be using incorrect discount rates. They appeared to suggest that incorrect lease evaluation subsequently affects leasing use. In addition, comments from both lessees and lessors suggested that lessees who could evaluate lessor's returns were in a position to negotiate better lease terms. The use of leasing to safeguard against obsolescence was not found to be important amongst respondents. This is not surprising given that the time period, late 1970's, was not as technologically advanced as the present day. Also, leased assets did not appear to be constantly updated given that 84% of agreements entered secondary period. Further, Hull and Hubbard stated that they were only concerned with the use of finance leases. Although their study is also prior to the introduction of SSAP21, they defined finance leases to include a 'non-cancellable' primary period of normally 5 years, or 3 years for short-life or high-risk assets, and up to 15 years for long-life assets. During primary period the lessee is obligated to pay rentals, and at the end normally receives between 95 to 99% of the disposal proceeds. It is difficult to identify how finance leases safeguard against obsolescence, when primary period is non-cancellable and the disposal proceeds may be negligible at the end.

Table 3.20: A summary of the leasing issues explored, questions asked and responses provided in Hull and Hubbard's (1980) survey

Issues explored	Abbreviated question	Response (n = 300)	
Use of leasing	Have you signed lease agreements in the previous two years?	56% Yes	
Reasons for leasing	What are the main reasons for leasing?	Important factors	Marginal factors
	*Conserved cash flow	54%	24%
	*Cheaper than purchase	45%	19%
	*Additional form of finance which does not affect other borrowing sources	27%	26%
	*Assisted in having a mixed financing strategy	22%	27%
	*Safeguard against obsolescence	18%	19%
	*Certainty of fixed payments	12%	31%
Evaluating the leasing decision	Which lease evaluation methods are used?		
	*Net present value	30%	
	*Payback	29%	
	*Internal rate of return	19%	
	*Accounting rate of return	10%	
	*No formal evaluation	6%	
	*Others	6%	
	In applying the discounted cash flow technique, what type of discount rate is used?	Before tax	After tax
	*Average cost of capital	4%	5%
	*Average cost of borrowing	16%	17%
	*Marginal cost of capital	0%	2%
	*Marginal cost of borrowing	13%	13%
	*Company set borrowing rate	13%	17%
Reasons for not using finance leasing	*Lack of awareness	1 firm	
	*More expensive than alternatives	59 firms	
	*Some key executives opposed to leasing	15 firms	
	*Fixed commitment leads to a loss of flexibility	6 firms	
	*Understates assets on balance sheet	7 firms	
	*Lack of eligibility for government incentives	8 firms	
	*Incompatible with company's image	7 firms	
	*Other (specify): Not group policy	7 firms	
Duration of lease agreements	How often do lease agreements enter secondary period?	84%	

UK surveys after the introduction of SSAP21 and tax changes

Mayes and Nicholas (1988) conducted a postal questionnaire survey of the leasing behaviour of UK firms of different size. A sample of 1000 small/medium sized firms was obtained from the South West Economic Planning Region and 85 larger firms on the National Institute of Economic and Social Research survey panel. Completed responses were obtained for 406 small/medium sized and 30 larger sized firms. A summary of the leasing issues explored, questions asked and responses provided is shown in Table 3.21.

At the time, finance leases appeared to be more predominantly in use compared to operating leases. Also, the leasing of land and buildings did not appear common among respondents. However, since Mayes and Nicholas did not explicitly investigate the leasing of land and buildings, it could only be captured in terms of an 'other' category. Although Mayes and Nicholas identified that many respondents used leasing as part of a corporate financial strategy, there is no evidence to suggest the nature of financial strategies or where leasing fits in. Tax advantages did not appear to be a prime motivation to lease. Rather, avoiding a large capital outlay appeared to be of most importance to smaller firms. Owing to the fact that only 30 larger firms completed the survey, it is difficult to make comparisons in terms of firm size. However, Mayes and Nicholas concluded that tax advantages were more important to larger firms. The evidence appears to suggest that, the loss of 100% first year capital tax allowances, would make leasing less attractive to a number of both small and larger firms alike. Leasing did not appear to be used to boost the degree or timing of investment. Sales aid leasing did not appear widespread, casting doubt on the suggestion that leasing is conveniently offered at points of sale.

Drury and Braund (1990) used a questionnaire survey to investigate the opinions of UK financial managers on issues relating to finance leases. They mailed 988 UK quoted companies and achieved a response rate of 28% (273 completed questionnaires). A summary of the questions asked and responses provided is shown in Table 3.22.

The relative cost of leasing along with tax considerations appears to dominate the leasing decision for large firms. Little importance appeared to be placed on other

Table 3.21: A summary of the leasing issues explored, questions asked and responses provided in Mayes and Nicholas's (1988) survey

Issues explored	Abbreviated question	Response			
		SW[1] (n=406)		NIESR[2] (n=30)	
Use of different types of leasing	Has your company had leased assets:				
	*In the past financial year	223			23
	*Five years ago	211			25
	Types of leasing used:	1 year	5 year	1 year	5 year
	*Finance leasing only	112	120	9	10
	*Operating leasing only	31	25	1	3
	*Both	78	64	13	12
	*Not specified	2	2		
Nature of assets leased	What type of assets are leased?	1 year	5 year	1 year	5 year
	*Plant and machinery	105	95	19	20
	*Vehicles	140	117	11	13
	*Computers	117	88	19	20
	*Office equipment	108	101	7	5
	*Other	10	4	3	3
Company policy towards leasing	Your company uses leasing:	1 year	5 year	1 year	5 year
	*As part of a corporate financial strategy	130	101	19	18
	*Because no alternative was offered by the supplier	10	10	0	0
	*On an adhoc basis	87	98	3	6
	*Other	6	5	2	2
		(equipment for one large contract, experiment, tooling, commercial/operating considerations)			
Reasons for leasing	What factors does your company take into account when deciding to lease?	1 year	5 year	1 year	5 year
	*Avoiding large capital outlay	148	145	3	5
	*Expanding debt capacity	31	19	4	4
	*Tax advantages	77	74	18	19
	*Safeguarding against obsolescence	51	35	7	8
	* Other	26	19	4	3
Reasons for not leasing	What factors does your company take into account when deciding not to lease?				
	*Too expensive compared to other sources of funds	37			2
	*Asset did not qualify for capital allowances	8			0
	*Prefer to own assets	50			0
	*Able to take direct advantage of capital allowances	47			2
	*Other	4			0
Cost of leasing	Why do you consider leasing to be more expensive than alternatives?	Most respondents indicated that 'company is in a tax-paying position with no shortage of funds' or 'leasing costs include lessor's costs and profits which are not included in alternatives'			

[1]SW=Companies in the South West Economic Planning Region

[2]NIESR=Companies on the National Institute of Economic and Social Research survey panel

[3]Leasing has no impact on quantity of investment because leasing is limited to equipment peripheral to main business, investment/financing decisions taken separately. Leasing increased investment because capital savings, simpler investment, cash flow, lack of alternative funds, specific assets acquired (computers), tax advantages reflected in cost, off-balance sheet.

Table 3.21 continued

How leasing affects quantity of investment undertaken?	What is the effect of leasing on the quantity of investment undertaken by your company?		
	*Investment increased	59	2
	*Remains unaltered[3]	200	24
	*Decreased	6	0
	*Not specified	3	
How leasing affects timing of investments	The use of leasing has caused your company's investments to be:		
	*brought forward	56	2
	*remain unaltered	202	24
	*delayed	2	0
	*not specified	8	0
		(reasons for being brought forward included lack of available funds, cash flow & tax advantages)	
Use of sales-aid leasing by customers	Does your company offer sales aid leasing?	36 Yes	6 Yes
	What method of sales-aid leasing is used?		
	*Through a finance company	26	5
	*Through a lease broker	1	0
	*Through own finance company or division	8	3
	*Other	3	0
	What effect has sales-aid leasing had on customer sales?		
	*Increased	15	3
	*Remains unaltered	17	2
	*Not specified	4	1
	What effect has sales-aid leasing had on the timing of customer's decisions to purchase?		
	*Been brought forward	13	1
	*Remains unaltered	18	4
	*Not specified	5	1
The effects of changes in rates of corporation tax and capital allowances announced in budget	What effect has the 1984 budget had on the amount of leasing undertaken by your company?		
	*Increased	50	2
	*Remains unaltered	150	12
	*Decreased	58	11
	*Not Specified	10	1
The future use of leasing after March 1986 when capital allowances phased out	After March 1986, your company will:		
	*Use more operating leases than finance leasing	43	5
	*Use more finance leasing than operating leasing	59	2
	*Use other forms of finance instead	88	13
	*Not specified	78	6

[1]SW=Companies in the South West Economic Planning Region

[2]NIESR=Companies on the National Institute of Economic and Social Research survey panel

[3]Leasing has no impact on quantity of investment because leasing is limited to equipment peripheral to main business, investment/financing decisions taken separately. Leasing increased investment because capital savings, simpler investment, cash flow, lack of alternative funds, specific assets acquired (computers), tax advantages reflected in cost, off-balance sheet.

Table 3.22: A summary of the leasing issues explored, questions asked and responses provided in Drury and Braund's (1990) survey

Issues explored	Abbreviated question	Response				
Factors influencing leasing decision	How important are the following factors in your company's decision to acquire assets by finance lease rather than purchase (or borrow and purchase)?	VI	AAI	AI	BAI	NI[1]
	*Rate of interest implicit in lease financing compared to borrowing	50.6	30.3	11.7	3.9	3.5
	*Corporation tax considerations	38.7	28.3	22.6	5.2	5.2
	*Leasing is easier to arrange from an administrative view than borrowing	0.9	3.5	17.1	18.4	60.1
	*Lease finance can be obtained with greater ease and fewer restrictions than other forms of finance	0.4	6.6	22.5	20.7	49.8
	*Conservation of working capital	11	24.2	30	10.6	24.2
	*Ability of a lease to offer a complete package including e.g. servicing agreements	0.4	10.1	24	21.8	43.7
	*Leasing permits 100% financing - the full cost of the asset is met	2.2	12.8	28.6	17.2	39.2
	*Leases can be arranged in which the rental payments increase over the lease period, thus enabling low rentals to be charged against profits in the early stages of a projects life	0	8.4	13.9	27.9	49.8
Factors influencing the decision to use sources of finance other than leasing	Indicate the relative importance of the following factors in the decision to finance the acquisition of an asset by a source of finance other than leasing?	VI	AAI	AI	BAI	NI
	*Leasing is more expensive than borrowing	51.5	35.3	6.6	3.7	2.9
	*Loss of grants/taxation allowances if asset is leased	34.5	25.6	19.8	8.8	11.3
	*Some key executives opposed to leasing	3	6.3	16.1	23.3	51.3
	*Lack of awareness of leasing	1.3	3.4	16.3	20.2	58.8
	*Company does not have legal ownership of asset	1.7	7.6	21.5	27	42.2
	*Leasing indicates a source of financial weakness	1.3	3.4	18.4	24.5	52.4
	*Leasing is more difficult to arrange than borrowing	1.4	7.2	17.2	22.6	51.6
	*Tax variation clauses in lease contracts make other sources of finance appear more attractive	4.6	16.7	35.7	16.3	26.7
	*Leasing requires advance rentals and so does not provide 100% financing	0.5	4.1	27.4	26	42
Past and estimated future leasing activity	Indicate the % of new asset acquisitions financed by leasing for accounting year end:	0%	1-25	26-50	51-75	76-100
	1983	42.7	39.9	7.3	6	4.1
	1984	39.5	41.4	8.2	6.8	4.1
	1985	38.7	41	10.8	5	4.5
	1986	44.2	40	8.8	3.3	3.7
	Estimate 1987	41.3	42.7	8.3	5.5	2.2
	Estimate 1988	40.2	43.8	8.2	5	2.8
Future use of leasing arising from removal of FYA and SSAP21	How will the extent of your company's finance leasing change as a result:	Removal of FYA			SSAP21	
	*Significant decrease	11.4			3.1	
	*Some decrease	14			11.4	
	*No change	62			82.9	
	*Some increase	10.9			2.6	
	*Significant increase	1.7				

[1]VI=vitally important, AAI=above average importance, AI=average importance, BAI=below average importance, NI=not important)

Table 3.22 continued

Loss of 'off-balance sheet' advantage	To what extent do you believe companies would seek to structure new lease contracts in a way which did not require capitalisation?	44% of respondents supported the view that firms would replace finance leases with operating leases
Tax advantages	When evaluating finance leases, do you estimate whether or not you will be paying corporate taxes over the life of the proposed leases?	88% responded Yes
Lease evaluation	Do you consider the leasing decision to be a financing decision which is taken only after the decision to acquire the asset has been made?	86% responded Yes
Choice between leasing and other finance	With which alternative sources of finance is leasing compared to? *Bank borrowing *Hire purchase *Allforms rather than specific debt *Internal finance	 50% 15% 16% 19%
Lease evaluation	*Company compares the present value of the lease with the present value of borrowing alternatives *Company uses more than one evaluation method *Use Internal rate of return *Equivalent loan method *No formal evaluation Please indicate the interest rates used to evaluate finance leases: *Before tax rate *After tax borrowing rate *WACC *Non-discounting methods used	57% 10% 23% 15% 15% 22%(tax paying firms used incorrectly) 5%(non-tax paying firms used incorrectly) 14% 14%

[1]VI=vitally important, AAI=above average importance, AI=average importance, BAI=below average importance, NI=not important)

qualitative and cash flow considerations. Drury and Braund suggested that larger firms would be expected to face the same borrowing/procurement costs as lessors. They thus concluded that the only potential cost advantage arising from a leasing arrangement would be if the lessor were able to capture tax shields earlier than the lessee could. However, a more explicit investigation into the borrowing/procurement costs facing lessees, in comparison to leasing costs, would have substantiated their argument. Although cost considerations were also dominant for smaller firms, they also appeared to attach importance to qualitative and cash flow factors.

Despite the importance placed on corporation tax considerations, a decrease in leasing in response to the removal of first year allowances was not anticipated by the majority of respondents. Although 83% of respondents indicated that the introduction of SSAP21 would have no impact on their company's finance leasing, 44% indicated that they thought finance leases would be replaced by operating leases to avoid capitalisation. The importance of 'off-balance sheet' financing in the decision to lease pre and post SSAP21 would have been substantiated by a direct enquiry as to the importance placed on the 'off-balance sheet' nature of leasing. However, Drury and Braund's research was restricted to the use of finance leasing, which as a result of SSAP21 are recorded on balance sheet, and excluded operating leases.

US surveys

O'Brien and Nunnally's (1983) survey was mailed to the first 195 Fortune 500 firms. Completed responses were received from 72 firms, equating to a response rate of approximately 37%. A summary of the questions asked and responses provided is shown in Table 3.23. Although O'Brien and Nunnally were primarily concerned with lease evaluation methods, they did touch on the use of leasing and considerations in the leasing decision.

Findings appeared to suggest that respondents favoured using the cost of debt when net advantage to leasing analysis was performed. This adds support to the suggestion that the use of leasing should not be considered independently from the use of debt. O'Brien and Nunnally's respondents indicated that both tax reasons and

Table 3.23: A summary of the leasing issues explored, questions asked and responses provided in O'Brien and Nunnally's (1983) survey

Issues explored	Abbreviated question	Response
Scale of leasing payments in relation to company size	Please indicate your company's total assets and annual leasing payments: Total assets ($000,000): 200-499 500-699 700-1499 over 1500	Annual lease payments: ($000,000) .1-.499 .5-.999 1-3 over 3 1 7 1 63
Lease evaluation	In making leasing decisions, our company (check one) *Analyses the potential of leasing an asset even if the purchase of the asset would not be considered profitable *Analyses a leasing alternative only if the asset would have been profitable on a purchase basis In making leasing decisions, our company (check one) *Performs a net advantage to leasing analysis *Finds the net present value of the project under both leasing and purchase alternatives and then selects the one with the higher net present value *Other If company performs net advantage to leasing, the discount rate used in our net advantage to lease analysis is (excluding the one used for salvage value) *After-tax WACC *After-tax cost of debt *Before-tax cost of debt *Other, please explain	 18 firms 54 firms Generally, net advantage to leasing . Others include the implicit interest cost found in internal rate of return fashion. 4 firms 17 firms 1 firm - range of rates
Determinants of leasing policy	Please discuss any other considerations in your leasing decision?	Investment tax credit Duration of lease Treatment of the salvage value Inflation Technology forecasting Rate of obsolescence

risk sharing reasons in terms of residual values and obsolescence were considerations in the leasing decision. However, O'Brien and Nunnally's use of an open ended question to investigate considerations in the leasing decision, failed to establish the relative importance of these alternative factors.

Mukherjee (1991) also investigated reasons for leasing along with the process of lease evaluation. A questionnaire forwarded to 386 of the 1989 Fortune 500 was completed by 103 firms, equating to a response rate of approximately 27%. A summary of the questions asked and responses provided is shown in Table 3.24. Mukherjee found that leasing appeared to be used as a source of financing once the decision to acquire an asset had been made. The majority of respondents who used leasing were found to use it to finance up to 5% of their total assets. Avoiding the risk of obsolescence appeared to be the most important advantage to leasing, followed by a lower cost compared to borrowing. The tax and 'off-balance sheet' advantages to leasing appeared to be insignificant.

Bathala and Mukherjee (1995) investigated the leasing practices of small US firms (firms having between $10 and $500 millions in sales). A questionnaire mailed to 862 private and public firms was completed by 104, a response rate of approximately 12%. The response was thus comparatively low in relation to other leasing surveys. A summary of the questions asked and responses provided is shown in Table 3.25. In support of O'Brien and Nunnally's findings, Bathala and Mukherjee also found the majority of small firms who leased to use it to finance up to 5% of their total assets. Lease covenants appeared to be less restrictive than those imposed by other creditors. Small firms appeared to favour leasing for 'off-balance sheet' advantages, and the provision of 100% financing.

Prior survey evidence is summarised in Table 3.26. On balance the cost of leasing and tax implications (despite the removal of 100% first year allowances) appear to be important considerations. However, there is also evidence to suggest that other qualitative factors are important, especially to smaller firms. These findings are reflected in Drury and Braund's (1990) study, which is the most recent survey in the UK to date. However, the financing decisions made in relation to the business environment in the late 1980's when Drury and Braund's survey was conducted, no

Table 3.24: A summary of the leasing issues explored, questions asked and responses provided in Mukherjee's (1991) survey

Issues explored	Abbreviated question	Response
Scale of use of leasing	To what extent is leasing used to acquire assets?	
	*No lease financing	19.4%
	*Leasing finances 0.1 to 5% of assets	61.2%
	*Leasing finances 5.1 to 10% of assets	10.7%
	*Leasing finances over 10% of assets	8.7%
Lease evaluation	How does your company perform the leasing analysis?	
	*Leasing is viewed as a financing decision	88%
	*Leasing is viewed as an investment decision	7%
	*Leasing may be viewed as either a financing/investment decision	2 firms / 83
	*Uncertain	2 firms / 83
	Under what circumstances would a project that has been rejected at the capital budgeting stage be accepted based on the net advantage to leasing (a negative NPV project becomes worthwhile investment when a favourable lease term is available only with project)	
	*No lease analysis is performed	49%
	*Lease analysis is seldom performed	10%
	*Lease analysis is performed regularly	4%
	*No/unclear response	7%
Reasons for leasing	How important are the following advantages to leasing relative to other financing sources?	
	*Avoiding the risk of obsolescence	82%
	*Possibility of leasing being cheaper than borrowing	57%
	*Length of lease period	5%
	*Tax deductibility of land lease payments	5%
	*Off-balance sheet financing	3 firms
	*Avoidance of capital expenditure controls	2 firms
Future use of leasing in light of recent tax changes	Do you expect your future lease financing to:	
	*Increase	12 firms
	*Decrease	8 firms
	*Remain unchanged	42 firms
	*Not sure	16 firms
	*No/unclear response	5 firms
		Tax considerations seldom motive behind leasing

Table 3.25: A summary of the leasing issues explored, questions asked and responses provided in Bathala and Mukherjee's (1995) survey

Issues explored	Abbreviated question	Response (n=104)			
Use of leasing to finance what types of asset	Do companies enter lease agreements?	53.8% Yes 46.2% No			
	If so, which items are leased ?				
	*Automobiles	33 firms			
	*Plant, equipment and buildings	23 firms			
	*Office equipment and machinery	41 firms			
	*Computers	25 firms			
	*Land	4 firms			
	Others	13 firms			
Degree of use and types of leasing	What % of assets are financed by leasing?				
	0%	48 firms			
	0.1 to 5%	40 firms			
	5.1 to 10%	5 firms			
	10.01 to 20%	4 firms			
	Over 20%	7 firms			
	What types of leasing are used?				
	*Operating/maintenance leases	39 firms			
	*Finance/capital leases	33 firms			
	*Sale and lease back	7 firms			
	*Leveraged leases	1 firm			
	*Other	3 firms			
Lease evaluation	In making a decision to lease:				
	*We do not perform any type of quantitative analyses but rely on our judgement and experience	13 firms			
	*We do not perform any type of quantitative analyses because we prefer to lease some types of asset	8 firms			
	*We (or our consultants) do perform some type of quantitative analysis	27 firms			
	*Investing and lease versus buy decisions are simultaneously determined	12 firms			
	*Lease versus buy analysis is followed by the investing decisions	1 firm			
Perceived advantages to leasing over borrowing	To what extent do you agree with the following statements regarding advantages of leasing over borrowing	SA/A	SD/D	NAD	NS/A[1]
	*Leasing, unlike borrowing, avoids the risk of obsolescence	32	13	3	4
	*Legal consequences of default are less severe for leasing	16	17	11	9
	*Generally, lease terms are more favourable	18	21	13	
	*Frequently equipment can be leased for longer	16	17	18	
	*Generally, lease covenants are less restrictive	30	11	8	3
	*Tax advantage is the most important reason for leasing	14	23	11	3
	*Off-balance sheet accounting is an advantage of leasing	41	6	2	3
	*Leasing provides 100% financing with no down payment	35	6	7	3
	*Contract costs are lower for leasing	10	18	13	9
	*We prefer to lease because we are subject to alternative minimum tax	5	17	17	11
Comparison of debt and lease finance in terms of the restrictive covenants faced by small firms	Please check the type of restrictions that may be placed by your firm's creditors and lessors	By creditors	By lessors		
	*Restrictions on future borrowing	23	2		
	*Restrictions on additional leasing	8	7		
	*Restrictions on dividends	18	2		
	*Restrictions on future investments	13	1		
	*Minimum working capital requirement	20	5		
	*Maximum debt to equity ratio	26	3		
	*Seeking membership on firm's board	2	1		
	*Requiring more equity contributions	2	2		

[1]SA/A=strongly agree/agree, SD/D=strongly disagree/disagree, NAD+neither agree or disagree, NS/A=not sure/applicable

Table 3.26: A summary of leasing surveys

Author's	Year	Respondents	Response Rate	Motivation/Content	Conclusions
UK surveys prior to SSAP21 and removal of 100% first year tax allowances					
Fawthrop & Terry	1975	54 major UK corporations		Debt management and use of leasing in UK corporate financing strategies	Different leasing policies are a product of financial circumstances facing a company.
Sykes	1976	202 BIM members		Examination of leasing practices, advantages to leasing	Leasing provides an additional source of funds in terms of cash flow advantages. Large companies placed more importance on capital allowances.
Tomkins, Lowe & Morgan	1979	184 small firms		Investigation of the significance of leasing to small firms	Only 17 small firms found to lease mainly to avoid capital outlay or because no other sources of finance available at the time. Small firms not leasing because of limited investment opportunities financed from other sources.
Hull & Hubbard	1980	300 potential lessees	30%	Investigation of the attitudes and decision criteria of lessees	Non-tax paying reasons for leasing are important. Incorrect lease evaluation affects leasing use.
UK surveys post SSAP21 and removal of 100% first year tax allowances					
Mayes & Nicholas	1988	406 small/medium sized firms from South West Economic Planning Region 30 larger firms from National Institute of Economic and Social Research survey panel	41% 35%	Investigation of the leasing behaviour of UK firms of different size	Avoiding large capital outlay most important to smaller firms. Tax advantages more important to large firms.
Drury & Braund	1990	273 UK quoted companies	28%	Investigation of the opinions of UK financial managers on issues relating to finance leases	Relative cost of leasing and tax considerations dominate leasing decision for large firms. Although cost considerations important for small firms, more importance attached to qualitative and cash flow factors.
US surveys					
O'Brien & Nunnally	1983	72 of the first 195 Fortune 500 firms	37%	Investigation of lease evaluation methods, use of leasing and considerations in leasing decision.	Tax reasons and risk sharing reasons important considerations
Mukherjee	1991	103 Fortune 500 firms	27%	Investigation of reasons for leasing and the process of lease evaluation.	Avoiding the risk of obsolescence most important, also cost compared to borrowing.
Bathala & Mukherjee	1995	104 public & private firms having between $10 and $500 millions in sales	12%	Investigation of the leasing practices of small US firms	Lease covenants less restrictive. Small firms favour off-balance sheet' advantages and provision of 100% financing

way relate to the global business environment of today, the beginning of the 21st century. In addition, Drury and Braund concentrated on the use of finance leases which according to subsequent research (Marston and Harris, 1988; Beattie et al., 1998) has paled into insignificance in comparison to the use of operating leases. Drury and Braund also considered the leasing decision in isolation. As lease and debt appear to be at least partial substitutes (Marston and Harris, 1988; Beattie et al., 2000), a lack of consideration as to how firms decide on their levels of debt including leasing appears to be a serious shortcoming. Therefore, the survey investigation of leasing and corporate financing decisions in the present study has the potential to contribute significantly.

3.7 Leasing: prior research using accounting/company data

The analysis of accounting/company data has been used to identify firm characteristics that appear to be associated with high/low levels of leasing. Two approaches have been adopted. Firstly, by comparing the characteristics of leasing and non-leasing firms, using Univariate, Multivariate and Logit analysis. Secondly, by examining relationships between the degree of use of leasing and other firm characteristics using Tobit, OLS and Ordered Logit analysis.

3.7.1 Comparisons of the characteristics of leasing and non-leasing firms

Two studies in the US and one UK study, which compare the characteristics of leasing and non-leasing firms, have been identified. A summary of the findings is shown in Table 3.27.

US Studies

Kare and Herbst (1990) tested the hypothesis that highly profitable firms prefer to use debt to leasing on the basis of cost. They suggested that profitable firms could obtain debt more cheaply, and that unprofitable firms may not have access to low cost debt and would thus resort to leasing. Kare and Herbst drew on theoretical support for the cost of leasing being substantially higher than the cost of debt[6]. However, they also suggested that highly profitable firms could make their own use

[6] Long, 1977; Sorenson and Johnson, 1977; Crawford, Harper and McConnell, 1981.

Table 3.27: Prior research comparing the characteristics of leasing and non-leasing firms

Setting	Researchers	Firm Characteristics										
		Leasing	**Financial gearing**	**Size**	**Profitability**	**Industry**	**Investment opportunities**	**Ability to service debt**	**Operating risk**	**Financial Distress Potential**	**Growth**	**Tax Position**
US	Kare & Herbst (1990)	If firm has capitalised finance leases on balance sheet	Debt to equity **HIGHER IN LEASING FIRMS**	Log of total assets **HIGHER IN LEASING FIRMS**	EBIT to sales **LOWER IN LEASING FIRMS** EBIT to total assets **NO SIG DIFF**							
US	Krishnan & Moyer (1994)	If firm has capitalised finance leases on balance sheet	Long-term debt to total assets **HIGHER IN LEASING FIRMS**		Current: EBIT to total assets **NO SIG DIFF** Past: Retained earnings to total assets **LOWER IN LEASING FIRMS**	High use of leasing in Transportation, Mining and Retailing Low use in Manufacturing	Market to book value of equity **NO SIG DIFF**	EBIT to total interest **LOWER IN LEASING FIRMS**	Coefficient of variation of EBIT **HIGHER IN LEASING FIRMS**	Altman's Z score **LOWER IN LEASING FIRMS**	Mean rate of growth in total assets over 5 years **HIGHER IN LEASING FIRMS**	Income tax provision less increase in defered tax to pre-tax income before extraordinary items **NO SIG DIFF**
UK	Lasfer & Levis (1998)	If firm has finance leases and hire purchase on balance sheet	Long-term debt to long-term debt plus equity **HIGHER IN LEASING FIRMS**	Sales (£m) **HIGHER IN LEASING FIRMS** Total assets (£m) **NO SIG DIFF**	Profit before interest and tax (£m) **HIGHER IN LEASING FIRMS** Return on equity **NO SIG DIFF**		Market to book value of equity **HIGHER IN LEASING FIRMS**				Additions to other tangible fixed assets (£m) **HIGHER IN LEASING FIRMS** R&D to sales **NO SIG DIFF**	Tax charge to profit before tax **NO SIG DIFF** Tax recover-able to set against future liabilities **HIGHER IN LEASING FIRMS**

of tax shelters (i.e. capital tax allowances), whereas less profitable firms may obtain more benefit from transferring allowances to a lessor.

Analysis of variance was used to make comparisons between 259 non-leasing firms and 114 leasing firms, on the basis of financial gearing, size and profitability, for the period 1976 to 1986. The use of leasing was represented by the capitalised value of finance lease obligations in relation to total assets. When profitability was measured by earnings before interest and taxes as a proportion of sales, leasing firms appeared to exhibit lower profitability. However, when earnings as a proportion of total assets was used, there was no significant difference between leasing and non-leasing firms.

Kare and Herbst reconciled these conflicting results in terms of the efficiency of asset utilisation. They concluded that leasing firms are more efficient, i.e. they employ fewer assets to generate a dollar in sales compared to non-leasing firms, although no explanation was provided as to why. However, if leasing firms, i.e. firms engaged in finance leasing, were also engaged in operating leasing, then they might not be more efficient, but simply employing more assets than recorded on balance sheet to generate sales. Regardless, the conflicting results found using the alternative measures of profitability renders the relationship unclear. Further, as Kare and Herbst suggested that profitable firms opt for cheaper alternatives to leasing, it would have been useful if they had also examined the relationship between profitability and non-leasing debt. Kare and Herbst did find financial gearing to be higher for leasing firms and leasing firms to be of larger size.

Krishnan and Moyer (1994) investigated the role of bankruptcy costs in the lease/borrow decision. They suggested that leasing is associated with lower bankruptcy costs compared to non-leasing debt. However, as it is also generally associated with higher transaction costs, the decision to lease becomes a trade-off between the two. This trade-off is suggested as an explanation of why borrowing is preferred by more creditworthy firms and leasing by less creditworthy firms, i.e. firms that have a greater potential for bankruptcy. Industry classifications were used as a proxy for lease potential on the basis that bankruptcy potential is related to the nature of firm assets, which in turn are a product of the industry in which the firm

operates. Krishnan and Moyer also investigated the suggestion that leasing may be favoured by growth firms as a result of investment disincentive and asset substitution problems encountered with debt. Leasing is associated with a specific asset thus avoiding asset substitution. Growth firms tend to be relatively cash poor and may also favour leasing for the 100% financing option.

Average data was obtained, from The Disclosure Database and Compustat, for 98 firms reporting capitalised leasing on the balance sheet and 410 firms without, for the period 1984 to 1986. Both univariate and multivariate analysis were used to compare the characteristics of leasing and non-leasing firms. Leasing firms were found to have lower retained earnings, lower interest coverage and higher operating risk, all of which suggest a higher potential for financial distress. Further, firms in manufacturing were found to employ less leasing than retailing, transportation and mining, whose assets, Krishnan and Moyer suggested, are less firm specific. Leasing firms were also found to have higher growth rates and higher levels of long-term debt in relation to total assets. Krishnan and Moyer concluded that their results suggested that as bankruptcy potential increases, lease finance does indeed become attractive, offsetting the high transactional costs normally associated with it. Although there is evidence to suggest a positive association between leasing and financial distress potential, there is no evidence provided to suggest transactional costs are offset or that leasing is actually associated with high transactional costs.

UK Studies

Lasfer and Levis (1998) analysed the use of finance leases and hire purchase for 3008 UK quoted and unquoted companies over the period 1982 to 1996. Operating leases were excluded from their analysis on the basis of being "nothing more than a short-term cancellable lease". This total disregard for operating leases is a serious cause for concern. Under SSAP21, any lease agreement in which the present value of minimum payments amounts to less than 90% of the fair value of the leased asset can be classed as an operating lease. Thus, SSAP21 provides the opportunity for leases, which are substantially more than short-term cancellable leases, to be classed as operating leases. In addition, Edwards (1997) found 95% of the lease payments made by 2288 UK companies in 1994 to relate to operating leases. This evidence

suggests that a predominant and prolific use of operating leases existed in the UK during at least part of the duration of Lasfer and Levis's study.

Univariate and logit analysis was used to compare leasing and non-leasing companies. Comparisons were made on the basis of size, tax position, financial gearing ratios, growth opportunities and profitability. Companies engaged in leasing were found to be larger in terms of sales turnover and exhibited higher gearing ratios and market to book ratios. Leasing companies were also found to have higher profitability. However, comparisons were made with non-leasing companies on the basis of absolute profit before interest and taxes. By failing to scale profit by sales turnover or total assets, Lasfer and Levis failed to remove the element of company size. All things being equal, a larger company would exhibit a larger total profit in absolute terms. However, in relation to the sales achieved or the assets in use, a smaller company may be more profitable.

Leasing companies were found to have higher growth levels when growth was measured by additions to other tangible fixed assets. This supports the suggestion that leasing may be favoured in growth companies to avoid asset substitution problems and for the provision of 100% financing. Lasfer and Levis also used research and development costs to sales to proxy growth and found no significant difference between leasing and non-leasing companies. However, previous capital structure studies have used research and development to sales as a proxy for product uniqueness (see Table 3.10). In this case, leasing companies might have been expected to exhibit lower research and development costs, as it is likely to be much more expensive for lessors to bear the risks of unique or company specific assets in comparison to standardised assets. Lasfer and Levis found the amount of tax recoverable to set against future liabilities to be higher in leasing companies, providing an element of support to leasing being used for transferring capital allowances to a lessor.

Lasfer and Levis went on to consider the differences between leasing and non-leasing companies, according to company size. They found profitability, financial gearing and taxation to be positively correlated with leasing in large companies. In

small companies, the leasing decision did not appear to be driven by taxation or profitability, but by growth opportunities.

3.7.2 Relationships between the degree of use leasing and other firm characteristics

Several studies have examined the relationships between leasing and other firm characteristics, either by focusing on the determinants of leasing policy, or as a by-product when investigating the extent to which lease and debt are substitutes[7]. An outline of previous researchers' intentions is provided on a study-by-study basis. However, findings are summarised according to the relationships tested and the proxies used. Prior studies are also grouped according to country of origin.

US based studies

A summary of the relationships investigated between leasing and other firm characteristics and the subsequent findings is shown in Table 3.28.

Ang and Peterson (1984) examined the relationship between certain firm characteristics and the level of leasing, when investigating the extent to which leases displace debt. A sample of approximately 600 non-regulated and non-financial US firms were used for the period 1976 to 1981. Ang and Peterson only considered the use of capitalised finance leases and ignored the use of operating leases. Tobit analysis was used with the lease ratio as the dependent variable, and financial gearing, operating risk, operating leverage, profitability, expected growth, size and liquidity as independent variables. Leasing appeared to be significantly negatively related to both operating leverage and profitability, and significantly positively related to liquidity. This supports expectations that profitable firms employ less lease finance. However, a lack of liquidity might be expected to encourage leasing activities rather than be associated with their absence.

Although Ang and Peterson did not include tax rate as an independent variable, they did compare the tax position of leasing and non-leasing firms. Surprisingly, they found that the average effective tax rates of leasing firms were consistently higher than those of non-leasing firms, in each of the six years of their study. This

[7] Previous studies investigating lease-debt substitutability are presented in section 3.11 of this chapter

Table 3.28: Prior US research examining the relationship between firm characteristics and the degree of use of leasing

	Ang and Peterson (1984)	Bathala and Mukherjee (1995)	Sharpe and Nguyen (1995)	Graham, Lemmon & Schallheim (1998)	Mehran, Taggart & Yermack (1999)	Duke, Franz, Hunt & Toy (1999)	Summary
Leasing Ratio (Dependent variable)	Capitalised finance leases to book value of equity	Proportion of assets financed with all types of leasing (Questionnaire response)	Finance & operating leases in relation to net property, plant & equipment	Both finance leases and operating leases to market value of firm	Net capitalised leases to total assets. Share of lease payment in total capital costs (captures total leasing)	Cumulative minimum rentals due in next 5 years under non-canc non-capitalised lease to total or purchased assets	
Gearing Ratio	Debt to book value of equity **POSITIVE**	Both long-term debt & secured debt to total assets **POSITIVE**			Debt intensity: debt ratio modelled against control variables. **POSITIVE** for finance leases	Long-term debt to shareholders equity **INSIGNIFICANT**	**POS**
Operating Risk	Coefficient of variation of sales over previous 10 yrs **INSIGNIFICANT**		Variance of annual change in natural log of sales **INSIGNIFICANT**				**INSIG**
Operating Leverage	Regression slope of operating earnings on sales over previous 10 yrs **NEGATIVE**						**NEG**
Profitability	Return on net fixed plant **NEGATIVE**	Average annual net profit margin for previous 3 years **INSIGNIFICANT**					**?**
Growth	Price to earnings ratio **INSIGNIFICANT**	Average growth in annual sales for past three years **INSIGNIFICANT**					**INSIG**
Size	Total year end assets ($Billions) **INSIGNIFICANT**	Total assets **POSITIVE**	Natural log of number of employees divided by 10 **NEGATIVE** for total and operating leasing	Natural log of market value of firm **NEGATIVE**	Natural log of total sales **POSITIVE** for total lease share		**?**
Liquidity	Current assets to current liabilities **POSITIVE**						**POS**
Tax Position		3 year average of federal income taxes as a % of income before taxes **NEGATIVE**	Tax expense to earnings before tax: **INSIGNIFICANT** Large tax loss carryforward: **POSITIVE**	Simulated measure inc net operating loss cfwds & backs & ITC **NEGATIVE**: for operating leases	Before financing marginal tax rate (Graham et al.) **POSITIVE** for finance leases	Income tax expense net of change in deferred tax to current gross margin **NEGATIVE**	**NEG** for operating **POS** for finance leases
Geographical Diversity		Dummy variable for local, regional, national and international locations **POSITIVE** for nat/internat					**POS**

Table 3.28 continued:

	Ang and Peterson (1984)	Bathala and Mukherjee (1995)	Sharpe and Nguyen (1995)	Graham, Lemmon & Schallheim (1998)	Mehran, Taggart & Yermack (1999)	Duke, Franz, Hunt & Toy (1999)	Summary
Industry			Six dummy variables. **SIGNIFICANT**: Small manufacturing firms use substantial leasing	Dummy variables. **NEGATIVE** for telephone & utilities (regulated industries)			**SIG**
Dividend Policy			Dummy variable if firm pays no dividend: **POSITIVE**				**POS**
Cash Flow			EBIT and depreciation and rental expense to sales **NEGATIVE** for total and operating leasing				**NEG**
Use of Debt Capacity			Debt rating: **NEGATIVE** for total and operating leasing (Higher bond rating less leasing)				**NEG**
Technology Differences			Capital Intensity: Total capital costs to number of employees **NEGATIVE** for operating leases				**SIG**
Investment Opportunities				Market to book value **NEGATIVE**	Market to book value **POSITIVE** for total lease share		**?**
Asset Structure				Net property, plant & equipment to total assets **POSITIVE**			**POS**
Financial Distress Potential				Interaction of coefficient of variation in earnings and asset intangibility **POSITIVE** Modified Altman Z score: **POSITIVE**			**POS**
Restrictive Covenants						Dummy variable of 1 if existence of retained earnings or debt/equity restrictions **INSIGNIFICANT**	**INSIG**
Management Compensation Contracts						Dummy variable of 1 if firm has compensation plan based on income after interest **INSIGNIFICANT**	**INSIG**
Ownership Structure					Fraction of common shares owned by CEO **POSITIVE**	The larger of: % of shares held by officers/directors or % held by largest other investor **POSITIVE**	**POS**

contradicts the theory that lessees who pay little or no tax have the most incentive to lease by 'selling' their tax shields to lessors.

Bathala and Mukherjee (1995) used OLS regression analysis on data obtained from their questionnaire survey (Section 3.6) to identify the determinants of lease financing for 104 small firms. The proportion of firms' assets financed by all types of leasing was used as the dependent variable, with measures of financial gearing, size, profitability, growth, tax rate and geographical diversity as independent variables. A positive relationship was found between leasing and both financial gearing and firm size. Bathala and Mukherjee suggested that their findings implied a complementary relationship between debt and lease financing. The use of leasing is thus determined by the use of debt. However, the complementary relationship found could be the product of debt capacity differences across firms, if the other independent variables failed to provide adequate control.

The negative relationship found between tax rate and leasing contrasts with Ang and Peterson's findings. Bathala and Mukherjee also found firms operating nationally or internationally to undertake more leasing than those operating locally or regionally. However, it is difficult to segregate exactly what geographical diversity is capturing, when it relates to alternative firm characteristics such as firm size and operating risk, for example.

Sharpe and Nguyen (1995) examined the relationship between the use of leasing and various firm characteristics, when evaluating the influence of financial contracting costs on the incentive to lease. They considered both the use of capitalised finance leases and 'off-balance sheet' operating leases. The propensity to use finance leases was measured as the proportion of net capitalised finance leases to the net property, plant and equipment recorded on the balance sheet. The use of operating leases was quantified by comparing the footnote disclosure of commitments due in one year to these rental commitments plus the annual flow of depreciation and opportunity cost of holding property, plant and equipment. Opportunity cost was estimated as the net book value of property, plant and equipment times an opportunity rate. Annual firm data was obtained from Compustat for the period 1986 to 1991, resulting in approximately 2000

observations per year. Tobit and OLS regression analysis were used to examine the relationship between leasing propensity and operating risk, size, tax position, industry classification, dividend policy, cash flow, use of debt capacity and differences in technology.

The use of leasing was found to be positively related to large tax loss carry forwards, consistent with leasing being a mechanism for transferring capital tax allowances to a lessor. Firms that pay no dividends appeared to be more likely to use leasing, whereas firms with abundant cash flows, high bond ratings and high capital intensity appeared less likely to use operating leases. The negative relationship between leasing and cash flow supports the suggestion that leasing is favoured for providing 100% finance and flexible repayment. Sharpe and Nguyen concluded that given the extensive use of leasing to finance new equipment investment in the US in recent years, "a comprehensive analysis of corporate capital structure should not disregard the role of leasing". It follows that this is also true of an analysis of the role of leasing. It should not be considered out of context, independent from overall corporate capital structure. This failing is an aspect, which the present study has seen fit to address.

Graham, Lemmon and Schallheim (1998) examined tax effects on leasing. They used a forward-looking estimate of before-financing corporate marginal tax rate in response to the suggestion that many commonly used tax proxies are problematic. Lease payments are tax deductible and thus reduce taxable income and marginal tax rate. This infers a negative relationship between leasing and tax position, masking the expected positive relationship by which firms paying little or no tax opt for leasing to transfer capital allowances. Firm data from Compustat was obtained for the period 1981 to 1992, resulting in 18193 firm-year observations. Both capitalised finance leases and operating leases were considered. The use of finance leases was measured as the ratio of capital leases recorded on the balance sheet to the market value of the firm. The use of operating leases was measured as the present value of current-year rental expenses plus rental commitments over the next five years to the market value of the firm. Tobit regression analysis was used to examine the relationship between both types of leasing and firm size, tax position, industry

classification, investment opportunities, asset structure and financial distress potential.

Graham et al. findings appeared to suggest that firms which are more likely to be in a tax paying position are less likely to use operating leases. A positive relationship was evident between financial distress potential and the use of leasing, supporting the suggestion that leasing may be the last option available to distressed firms. However, the negative relationship found between investment opportunities, measured by the market to book ratio, is against expectations. Firms with high investment opportunities were expected to exhibit higher levels of leasing as a result of less restrictive covenants imposed by lease agreements, in comparison to those imposed with non-leasing debt alternatives.

Mehran, Taggart and Yermack (1999) examined the effect of CEO share ownership on leasing. Data was obtained from Compustat for a sample of 176 manufacturing firms for the period 1986 to 1991, a total of 1056 firm-year observations. Tobit and OLS regression analysis was used with leasing as the dependent variable and debt intensity, size, tax position, investment opportunities, and ownership structure as independent variables. Two alternative variables were used to measure leasing use. Net capitalised leases to total assets was used to represent finance lease use, and the share of lease payments in relation to total capital costs (based on Sharpe and Nguyen's measurement) to capture total lease use, i.e. including the use of operating leases.

Findings appear to suggest that CEO share ownership has a significantly positive effect on leasing. Mehran et al suggested that firm managers with larger ownership stakes use leasing to reduce their exposure to obsolescence and other asset-specific risk. In contrast to Graham et al., the positive relationship between finance lease use and tax position does not support the suggestion that leasing is used to transfer capital allowances to a lessor. A positive relationship was found between debt intensity and the use of finance leases, and both firm size and investment opportunities and the use of total leasing.

Duke, Franz, Hunt and Toy (1999) examined the relationship between the use of off-balance sheet operating leases and several firm specific characteristics. The relative use of operating leases was measured as the minimum rental payments due in the next five years in respect of non-cancellable, non-capitalised leases to total assets. Duke et al. acknowledged that the present value of minimum lease payments for all non-capitalised operating leases and finance leases would theoretically be the best measure. However, they failed to include it on the basis that an estimation would involve making assumptions in respect to lease terms, interest rates and payment patterns. Although capitalisation does involve subjective judgements and assumptions in light of the availability of limited information, it does not appear to be sufficient grounds for excluding the measure. This is especially true when other researchers (Imhoff, Lipe and Wright, 1991; Ely, 1995; Beattie, Edwards and Goodacre, 1998) have made successful attempts and substantiated their assumptions with sensitivity analysis.

Duke et al. obtained data from four sources: Moody's Industrial Manual (1985), Standard and Poor's Standard Corporate Descriptions (1985), Compustat and corporate statements. The final sample comprised 192 firms with year-end data in 1984 or early 1985. Ordered Logit analysis was used to examine the relationship between operating leases use and financial gearing, tax position, the existence of restrictive covenants and compensation contracts, and ownership structure. This involved categorising the dependent variable, operating lease use, into three discrete groups. Category 1 included firms with no operating leases, category 2 included firms with an operating lease use measure of between 0 and 0.0861, and category 3 included firms with a measure above 0.0861.

In support of Graham et al.'s findings, Duke et al. also found a negative relationship between a firm's tax position and the use of operating leases. In support of Mehran et al.'s findings, a positive relationship was also found between ownership concentration and the use of operating leases. The relationships between both the existence of restrictive covenants and compensation schemes and the use of operation leases were found to be insignificant. However, the mere existence of restrictive covenants or compensation schemes does not establish the relative

importance of these issues to individual firms/managers, and may thus have been insufficient to establish any relationship.

UK Studies

A summary of the relationships investigated between leasing and other firm characteristics and the subsequent findings is shown in Table 3.29.

Adedeji and Stapleton (1996) examined the relationship between a firm's lease ratio and other characteristics in their investigation of lease-debt substitutability. Tobit and OLS regression analysis were used for a sample of over 500 UK quoted companies for the period 1990 to 1992. Adedeji and Stapleton only considered the use of finance leases, and thus the lease ratio, the dependent variable, was measured as capitalised finance leases to total assets. Measures of financial gearing, growth, size, liquidity, tax position and industry classification were included as independent variables. In light of evidence (Edwards, 1997) as to the significance of operating leases in UK corporate financing during this time period, the omission of operating leases seriously undermines the power of their study.

Adedeji and Stapleton only found the relationship between finance leasing and liquidity to be significant when considering all the companies in their sample. However, a negative relationship between finance leasing and liquidity, gearing, growth and tax position was evident when a sub-sample of leasing companies were considered in isolation. These findings appear to provide some support for suggestions that leasing may be favoured for cash flow considerations, and dispute suggestions that it may be favourable when faced with expected growth/investment opportunities. The negative relationship between leasing and tax position could provide some indication that finance leasing is used for tax saving reasons. However, there is no explanation provided as to why gearing, growth and tax position appear to influence a firm's use of leasing once it has decided to lease, but fail to distinguish between leasing and non-leasing firms.

Beattie, Goodacre and Thomson (2000) investigated the relationship between a comprehensive measure of leasing and certain firm characteristics in their investigation of lease-debt substitutability. They pioneered the inclusion of

Table 3.29: Prior UK research examining the relationship between firm characteristics and the degree of use of leasing

	Adedeji and Stapleton (1996)	Beattie, Goodacre and Thomson (2000)	Summary
Leasing Ratio (Dependent variable)	Capitalised finance leases to total assets	Capitalised finance leases to total assets Total leases (inc. constructively capitalised operating leases) to total assets	
Gearing Ratio	Long-term and short-term debt excluding finance leases and hire purchase to total assets Tobit analysis for all companies: **INSIGNIFICANT** OLS analysis for leasing companies: **NEGATIVE**	Long-term and short-term debt excluding finance leases and hire purchase to total assets **INSIGNIFICANT** for finance leasing **NEGATIVE** for total leasing	**NEG** Total leasing
Growth	Price to earnings ratio Tobit analysis for all companies: **INSIGNIFICANT** OLS analysis for leasing companies: **NEGATIVE**	Average % change over past 4 years in total assets **INSIGNIFICANT** Price to earnings ratio **INSIGNIFICANT** for finance leasing **POSITIVE** for total leasing	**?**
Size	Natural log of total assets **INSIGNIFICANT**	Natural log of total assets; total assets; square of total assets **INSIGNIFICANT** over entire range but small and large companies use less leasing than medium sized companies	**INSIG** over entire range
Liquidity	Current assets to current liabilities Tobit and OLS analysis: **NEGATIVE**	Current assets to current liabilities **NEGATIVE**	**NEG**
Tax Position	Marginal tax rate Tobit analysis for all companies: **INSIGNIFICANT** OLS analysis for leasing companies: **NEGATIVE**	Effective tax rate: Current year reported tax charge to profit before tax **INSIGNIFICANT**	**INSIG**
Industry Classification	Industry dummy variables **INSIGNIFICANT**	Five dummy variables for building, retail, engineering, electrical and leisure **INDUSTRY INFLUENCE SIGNIFICANT** Retail industry employs less finance leases and more operating leases	**SIG**
Profitability		Return on capital employed **INSIGNIFICANT**	**INSIG**
Asset Structure		Proportion of fixed assets to total assets **POSITIVE** for finance leasing **NEGATIVE** for total leasing	**POS**: FL **NEG**: TOTAL

constructively capitalised operating leases in UK research in recognition of the predominant and prolific use of operating leases in recent years. Tobit and OLS regression analysis were used for a sample of between 217 and 232 UK quoted industrial and commercial companies over the period 1990 to 1994. Two alternative measures of the leasing ratio were used as the dependent variable, long-term capitalised finance leases to total assets, and the capitalised value of total leases (including operating leases) to total assets. Measures of financial gearing, profitability, asset structure, growth opportunity, size, industry classification, tax position and liquidity were used as independent variables. The explanatory power of the regression models obtained was much greater in comparison to those of Adedeji and Stapleton. In addition, Beattie et al. performed rigorous diagnostic testing in order to establish that the underlying assumptions of regression had been met, and to confirm the robustness of their models.

Beattie et al. found a negative relationship between total leasing and financial gearing, liquidity and asset structure. The inference that firms with high leasing have low proportions of fixed assets in relation to total assets on the balance sheet is logical if assets were predominately financed by off-balance sheet operating leases. In contrast to Adedeji and Stapleton, Beattie et al. found industry classification to be significant in the use of leasing, particularly in relation to the retail trade. Firms operating in the retail trade may be more likely to employ leasing because their assets are relatively standard. The market for leasing standardised assets is well developed compared to the market for leasing one-of-a-kind assets, which may be used in other industries. However, Beattie et al. suggested that tax incentives could influence a retail company's use of leasing. There are generally no tax allowances for the use of retail properties. However, if a retail company leases such property, tax relief is available on the full lease rental payment each year. If the lessor is a non-tax payer, for example a pension fund, then a reduction in total tax payable by lessor and lessee results, at a detriment to the Inland Revenue. Thus, there is a tax incentive to lease, rather than buy such retail property. This incentive does not depend on the lessee being a low or non-tax payer, the usual tax incentive to lease, rather it depends on the tax-paying status of the lessor.

Summary

On balance, firms using finance leases appear to have higher levels of financial gearing, higher growth in assets and a lower ability to service debt, in comparison to firms that don't. However, the profitability and investment opportunities experienced by firms using finance leases in comparison to those who don't is unclear.

The relationships found between leasing and other characteristics of firms in the US and UK are summarised below:

Firm characteristic	**US Studies**			**UK Studies**		
	Finance	**Operating**	**Total**	**Finance**	**Operating**	**Total**
Gearing ratio	**POS**		**POS**			**NEG**
Operating risk	**INSIG**		**INSIG**			
Operating leverage	**NEG**					
Profitability	**?**					**INSIG**
Growth	**INSIG**		**INSIG**	**?**		
Size	**?**			**INSIG**		**INSIG**
Liquidity	**POS**			**NEG**		**NEG**
Tax paying position	**POS**	**NEG**				**INSIG**
Geographical diversity			**POS**			
Industry	**SIG**					**SIG**
Dividend policy			**POS**			
Cash flow		**NEG**	**NEG**			
Use of debt capacity		**NEG**	**NEG**			
Technology differences	**SIG**					
Investment opportunities	**?**					
Asset structure			**POS**	**POS**		**NEG**
Financial distress potential			**POS**			
Restrictive covenants		**INSIG**				
Management compensation schemes		**INSIG**				
Ownership structure		**POS**	**POS**			

Although US findings suggest that financial gearing is positively related to finance leasing, UK evidence suggests that the relationship is negative when operating leases are also given consideration. In the US and the UK, the existence of a linear relationship between leasing and firm size is not clear. UK evidence suggests that firms at both extremes of the size spectrum employ less leasing compared to firms of medium size. Although a positive relationship was observed between liquidity and finance leasing for a sample of US firms, the relationship appears negative for UK firms in relation to both finance and total leasing. In the US, firms in a high tax position or with substantial cash flows appear to employ less operating leases. High levels of leasing in US firms appear to be associated with operating in a national/international environment, possessing a large proportion of fixed assets in relation to total assets, a high financial distress potential and large proportion of managerial ownership. Industry classification appears to exert influence on the use of leasing in both the UK and US. Leasing is exceptionally prominent in the UK retail trade.

The differences arising between the relationships found between levels of leasing and other firm characteristics in the US and UK may partly be due to differences in the time periods in which previous studies were conducted, as well as differences in the proxies used. However, the evidence arising from the UK is fairly limited, a situation the present study has seen fit to rectify.

3.8: Summary: Leasing theory and evidence

The theory and empirical evidence in relation to the various reasons for leasing is summarised in Table 3.30.

There appears to be some evidence, albeit inconclusive, that tax reasons influence the leasing decision. Although firms have failed to acknowledge that leasing is used to expand debt capacity, total leasing obligations do appear to displace less than an equivalent non-leasing debt. There is US evidence to suggest that lease covenants are less restrictive, which would explain why growth firms appear to be engaged in more leasing. Leasing appears to be favoured for cash flow considerations and for

Table 3.30: Leasing theory and evidence: Reasons for leasing

Theoretical reasons	Benefit/cost of leasing to shareholders and/or managers	EMPIRICAL EVIDENCE	
		Management's intentions/perceptions: Surveys	**Management's previous actions: Accounting data based studies**
Tax savings: Transfer of capital allowances if insufficient use for them. Lease rental tax deductible on non-qualifying assets.	Benefit	**Support:** In UK, tax considerations relatively important especially in large firms (Mayes & Nicholas, 1988; Drury & Braund, 1990) **Contradiction:** In US, tax deductibility of land lease payments not important (Mukherjee, 1991). Tax advantages not considered important by small firms (Bathala & Mukherjee, 1995)	**Support:** UK: Tax recoverable to set against future liabilities higher in leasing firms (Lasfer & Levis, 1998) US: Negative relationship between leasing and tax position in firms (Table 3.28) **Contradiction:** UK: Insignificant relationship between tax rate and use of leasing (Table 3.29)
Impact on debt capacity: Leasing perceived as having less impact on debt capacity than non-leasing alternatives - ability to extend debt capacity	Benefit	**Contradiction:** The perceived relationship between lease and debt finance is unclear from UK or US survey responses In the UK, little evidence that expanding debt capacity is an important reason for leasing (Fawthrop & Terry, 1975; Hull & Hubbard, 1980)	**Support:** UK: Gearing is higher in leasing firms which could infer a more intensive use of debt capacity (Table 3.27) £1 of total leasing found to displace much less than £1 of debt (Beattie et al., 2000) US: $1 of total leasing also found to displace less than $1 of debt (Marston & Harris, 1988)
Less restrictive covenants: Leasing mitigates under investment (avoids asset substitution problem) Important to firms facing growth/ investment opportunities	Benefit	**Support:** In US, sample of small firms agreed lease covenants were less restrictive (Bathala & Mukerjee, 1995) **No evidence**: Lease covenants not investigated in UK surveys	**Support:**UK: Growth in assets higher in leasing firms than non-leasing firms (Table 3.27) **Contradiction**: US: Insignificant relationship between existence of restrictive covenants and leasing (Table 3.28)
Agency costs Conflicts between lessor and lessee if key firm specific assets are leased	Cost	**Contradiction**: Some UK evidence that not having legal ownership is not important in decision not to lease (Drury & Braund, 1990)	**No evidence:** Relationship between leasing and degree of firm specific assets not investigated (Although industry influence which determines nature of assets)
Any scale of operations: Leasing available for any scale of assets, medium-long term debt usually on a large scale	Benefit	**No evidence**: Advantage of leasing being available on any scale not investigated in UK/US surveys	**No evidence**: Relationship between leasing and scale of individual assets/operations leasing is used to finance not investigated
Avoidance of capital expenditure application process: Operating leased assets classed as revenue expenditure	Benefit	**No evidence**: Advantage of avoiding capital expenditure application process not investigated in UK surveys **Contradiction**: Avoidance of capital expenditure controls not important to US firms (Mukherjee, 1991)	**No evidence**

Table 3.30 continued:

Theoretical reasons	Benefit/cost of leasing to shareholders and/or managers	EMPIRICAL EVIDENCE	
		Management's intentions/perceptions: Surveys	**Management's previous actions: Accounting data based studies**
Cash flow considerations: 100% finance with limited deposit of advance rent Flexible repayment features	Benefit	**Support:** 100% financing advantage important to small US firms (Bathala & Mukherjee, 1995) Conserving cash flow of some importance in UK (Hull & Hubbard, 1980; Drury & Braund, 1990) **Contradiction:** Provision of 100% financing not very important in UK firms (Drury & Braund, 1990)	**Support:** US: Negative relationship between cash flow proxy and leasing (Table 3.28) UK: Negative relationship between liquidity and leasing (Table 3.29)
Off- balance sheet financing: No effect on financial ratios Operating leases used to increase ROI without increasing investment	Benefit (Benefit enhanced if compensation schemes linked to financial ratios)	**Support:** Some UK firms favour leasing for improving apparent ROCE (Fawthrop & Terry, 1975). UK managers have admitted restructuring leases to operating leases to avoid capitalisation (Taylor & Turley, 1985; Drury & Braund, 1990). Off-balance sheet is an advantage to small US firms (Bathala & Mukherjee, 1995) **Contradiction:** In UK, asset not on balance sheet is not a reason for leasing (Tomkins et al., 1979). Not important in large US firms (Mukherjee, 1991)	**Support:** Documented switch from use of capitalised finance leases to off-balance sheet operating leases in US & UK (Marston & Harris, 1988; Beattie et al., 1998) If these operating leases capitalised they would influence financial ratios (Beattie et al., 1998) **Contradiction:** US: Insignificant relationship between leasing and existence of management compensation schemes (Table 3.28)
Risk sharing: Operating leases reduce risk of obsolescence, and provide flexibility to obtain modern or upgraded equipment Lessor has the ability to bear costs of obsolescence cheaper than lessee, reflected in lower rental costs Lessors ability to acquire standardised assets through bulk purchase Lessors ability to dispose of leased assets at end of useful economic life Leasing eliminates the risk of significant costs of transferring ownership	Benefit Depends on nature of asset (industry influence) and position of lessee	**Support:** Importance placed on using leasing to safeguard against obsolescence by some UK firms (Hull & Hubbard, 1980; Mayes & Nicholas, 1988). Very important to US firms (Mukherjee, 1991; Bathala & Mukher jee, 1995). **No evidence:** Advantage of lessors' ability to acquire/dispose assets, and the importance of avoiding transfer of ownership costs not investigated in UK/US surveys.	**Support:** US: High technological firms appear to use more leasing. Sharpe & Nguyen (1995) used a measure of capital intensity to signify technological differences between firms and found negative relationship with operating leases (Table 3.28) Industry:appears to influence use of leasing Very Large firms who could be in the best position to obtain or dispose of assets don't appear to use much (Beattie et al., 2000)
Convenience: Leasing has an easier application process, minimum paper work Lease finance offered at point of sale Economical means of obtaining servicing and maintenance	Benefit	**Contradiction:** Ease of application/minimum paperwork and servicing/maintenance not important in UK firms (Drury & Braund, 1990) **No evidence:** Importance of lease finance being offered at point of sale not investigated in UK/US surveys	**No evidence**

providing off-balance sheet financing. High technological firms appear to use more leasing, which coincides with the importance placed on safeguarding against obsolescence. The convenience associated with the application process for lease financing does not appear to be an issue.

There appears to be little evidence obtained to support the suggestions that leasing is favoured for availability on any scale, availability at point of sale, or avoidance of capital expenditure application processes. Further, there is little evidence obtained in relation to the lessor's ability to acquire/dispose of assets being an advantage, or the avoidance of significant transfer of ownership costs. Thus, the evidence in relation to leasing determinants appears somewhat incomplete.

Although the evidence from accounting data based studies highlights the existence of relationships between leasing and other firm characteristics, it fails to capture the more practical reasons for leasing. The survey method has the potential to extend the scope of the enquiry. However, the majority of prior survey evidence is somewhat outdated. The most recent UK survey (Drury and Braund, 1990) was conducted over a decade ago. The global business environment of today, at the beginning of the 21st century, bears no relation to the business environment of ten years ago. Therefore, previous evidence in relation to leasing determinants must be reviewed with caution. Even so it provides a benchmark against which the findings of the present UK survey study can be assessed.

3.9: The theoretical relationship between lease and debt finance in corporate capital structures

Leasing involves a contractual commitment of corporate funds and is thus expected to impact on a firm's ability to obtain future debt finance. If lease finance and debt finance are substitutes, then an increase in one would result in a decrease in another, if the level of debt in corporate capital structures is to be maintained. The empirical degree of substitution is reflected in the debt-to-lease displacement ratio, α, which can be defined as:

$$DR_{NL} = DR_L + \alpha LR_L$$

where:

DR_{NL} = debt ratio of non-leasing firm
DR_L = debt ratio of leasing firm
LR_L = lease ratio of leasing firm

Four alternative views on the value of α, and hence the degree of debt capacity leasing consumes, can be identified. The prominent view[8] is that lease finance and debt finance are perfect substitutes and α is equal to one. This view is based on the contractual commitment of corporate funds under a lease agreement being non-distinguishable from non-leasing debt commitments. Myers, Dill and Bautista (1976) suggested that as some of the risks of ownership of leased assets remain with lessors, leasing consumes less debt capacity, and α takes a value of less than one. However this value is still greater than zero, as leasing obligations still attract an element of risk impacting on debt capacity. Klein, Crawford and Alchian (1978) suggested that leased assets which are industry or firm specific could be difficult to sell in the event of default or bankruptcy, increasing the risk for investors and other lenders compared to a firm acquiring the equivalent non-leasing debt. In this case, α takes a value of greater than one, implying £1 of lease obligation consumes more than £1 of non-leasing debt capacity.

Lewis and Schallheim (1992) suggest 'that because leasing is a mechanism for selling excess tax deductions, it can motivate the lessee firm to increase the proportion of debt in its capital structure relative to an otherwise identical firm that does not use leasing'. In this way lease finance extends debt capacity and

[8] Miller and Upton (1966), Lewellen et al. (1976), Franks and Hodges (1978), Levy and Sarnat (1979), and Idol (1980)

relationships with non-leasing debt finance appears complementary. In this case, α takes a value of less than zero.

Lease-debt substitutability: prior evidence

Several empirical studies have considered whether leasing and debt are complementary or substitutes, i.e. they have investigated which of the hypothesised values for α apply in practice. Perceptions of the relationship between leasing and debt finance have been examined using both the survey and experimental approach. The analysis of accounting data has also been used in attempts to actually observe the relationship. However, in order to observe lease-debt substitutability, it is necessary to assume that firms operate with target amounts of debt. Otherwise, increases in both leasing and debt could be observed, not because they are complementary and leasing has no impact on debt capacity, but because of an increased use of debt capacity. Given that there is evidence to suggest the existence of target debt ratios in both the UK and US, investigating lease-debt substitutability by observation does not appear to be inappropriate.

3.10: Lease-debt substitutability: Survey/experimental based prior research

Several survey-based studies investigating the determinants of leasing in both the US and UK have investigated how firms perceive the relationship between leasing and debt. The questions asked and responses received are summarised in Table 3.31.

On balance, there does not appear to be a clear indication of the value of α from survey evidence. This is hardly surprising when previous survey questions appear to have only partially investigated the relationship. Fawthrop and Terry (1975) and Hull and Hubbard's (1980) questions both implied that leasing has no effect on borrowing capacity, and investigated the importance of this fact in the decision to lease. Responses indicating that it was not an important factor could equally infer that firms have other more important reasons for leasing, rather than because they perceive that leasing does not have any impact on debt capacity. Drury and Braund's (1990) evidence suggests that leasing is considered to consume debt capacity, but not to the same degree as an equivalent amount of non-lease debt, i.e.

Table 3.31: A summary of the responses provided to survey questions investigating lease-debt substitutability

Setting	Author	Abbreviated question	Response
UK	Fawthrop & Terry (1975)	How relevant is the following in firm decision to lease? Leasing does not affect borrowing capacity	Very relevant: 8 firms Relevant: 15 firms Irrelevant: 18 firms
UK	Hull & Hubbard (1980)	What are the main reasons for leasing? Additional form of finance which does not affect other borrowing sources	27% responded important factor 26% responded marginal factor
UK	Drury & Braund (1990)	To what extent do you agree with the following statements? (A) A commitment to lease an asset which cost £1m reduces the borrowing capacity of a firm by exactly £1m (B) A commitment to lease an asset which cost £1m reduces the borrowing capacity of a firm by less than £1m	 63% Disagreed 62% Agreed
US	Mukherjee (1991)	How do you view the lease-debt relationship? Substitute Complement Independent No response	 38 Firms 18 Firms 25 Firms 2 Firms
US	Bathala & Mukherjee (1995)	Agreement with the following? Leasing is a substitute for borrowing Leasing complements borrowing and increases firm debt capacity Leasing has no bearing on borrowing	 5 Firms 26 Firms 23 Firms

α takes a value of less than one but greater than zero. However, the extent to which Drury and Braund's respondents believed that leasing has no impact on debt capacity was only investigated implicitly by their agreement with perfect/imperfect substitution. An explicit investigation as to the extent respondents perceived leasing to have no impact would have provided useful clarification of the situation.

The evidence from US surveys is mixed, and on the basis of the scale of response, it seems impossible to draw robust conclusions.

In an experimental situation, Bayless and Diltz (1986) observed the behaviour of US bank loan officers to investigate the debt displacement effects of leasing. Participants were asked to evaluate and recommend a maximum line of credit that could be extended to a firm. The case presented to each lender was identical except in the relative amounts of leasing and long-term debt, with the total amount remaining constant. Lending officers were found to be less willing to extend credit as a firm incurred leasing obligations. Bayless and Diltz concluded that a substitutability relationship existed between lease and debt finance, with leasing displacing 10% to 26% more unused debt capacity than debt finance, suggesting a value for α of greater than one.

3.11: Lease-debt substitutability: Prior research based on the analysis of accounting data

US based studies

Ang and Peterson (1984) examined the relationship between leasing and debt for approximately 600 non-regulated, non-financial firms over the period 1976 to 1981. Their timing coincided with the effective dates of the new US lease accounting standard SFAS 13. Tobit regression analysis was used with the lease ratio as the dependent variable and the debt ratio as the independent variable. Measures of operating leverage, sales variability, profitability, expected growth, size and liquidity were also included as independent variables to control for differences in debt capacity and its usage across firms.

Firms engaged in leasing were found to exhibit higher debt ratios than non-leasing firms. Regression results also indicated a positive but mainly insignificant relationship. Ang and Peterson thus concluded a complementary relationship, with an increase in leasing being associated with an increase in debt, and a value of α of less than zero. Smith and Wakeman (1985) suggested that Ang and Peterson's complementary result probably reflects an inadequate control for debt capacity differences across firms. Also firms with higher debt capacity may possess characteristics which also make leasing more attractive. However, Ang and Peterson ignored the contribution of operating leases in explaining the debt-to-lease displacement ratio, α, on the grounds that the percentage of firms reporting non-capitalised leases shrank from 13% in 1976 to 1% in 1981. This reduction, combined with an increase in the percentage of firms leasing from 1976 to 1981, was used to conclude the predominance of capitalised leases over non-capitalised leases. Unfortunately subsequent evidence (Marston and Harris, 1988) casts doubt on such an argument. It was found that although the proportion of capitalised leases had increased significantly since the issuance of SFAS13 in 1976, capitalised leases accounted for only about 35% of total leasing in 1982.

Irrespective of the above criticisms, Kare and Herbst (1990) also advocated a complementary relationship between lease and debt finance. They found, on average, leasing firms to have significantly higher debt to equity ratios in comparison to non-leasing firms.

To provide a stronger control for debt capacity differences across firms, Marston and Harris (1988) compared changes in, as opposed to levels of, lease and debt finance. Their sample comprised 271 US firms over the six-year period 1976 to 1982. An OLS regression model employing average debt and lease ratios over time was used, and examined changes in financing subject to maintaining these averages. A comprehensive measure of both capitalised and non-capitalised leasing was used. It was justified considering capitalised leases accounted for only 35% of total leasing in 1982.

Although Marston and Harris confirmed Ang and Peterson's findings that high-debt firms often do engage in more leasing than low-debt firms, they found lease and

debt finance to be substitutes. Firms appeared to engage in leasing at a cost of reducing their ability to finance with non-leasing debt. However results did not indicate perfect substitution, rather $1 of leasing displaced on average approximately $0.6 of debt (i.e. α takes a value of less than one and greater than zero). Marston and Harris suggested that this could be value creating if firms were able to expand their debt capacity by replacing non-lease debt with leasing. However, they noted that differences in the risk attached to the two alternatives could well be recognised and priced appropriately by the market. [9]

UK based studies

Garrod (1989) found that the debt levels of firms engaged in leasing seemed to be increasing by a greater extent in comparison to those of their paired control firms. His findings implied that lease and debt finance appeared to be complementary. In contrast, Narayanaswamy (1994) found that, on average, finance leases like non-leasing debt appear to exert a positive effect on the volatility of equity returns. However leasing is considered more favourably in view of less risk being attached (i.e. α takes a value of less than one but greater than zero).

Adedeji and Stapleton (1996) conducted an investigation based closely on Ang and Peterson's (1984) methodology. They examined the relationship between lease and debt ratios using Tobit regression analysis for a sample of 550 UK quoted firms, and OLS regression for a sub-sample of firms engaged in leasing, for the period 1990 to 1992. Measures of price earnings, liquidity, size and tax rate were used to control for cross-sectional differences in debt capacity. Adedeji and Stapleton considered only finance leases when measuring lease ratios. They argued that 'finance leases are relevant, since it is this form of leasing that is fully substitutable for debt.' In light of UK (Beattie, Goodacre and Edwards, 1998) and US (Marston and Harris, 1988) evidence as to the significance of operating leases in corporate financing, the omission of operating leases seriously undermines the significance of their study.

[9] Lease-debt substitutability from a market perspective has been investigated using measures of capitalised lease finance (Bowman, 1980) and capitalised plus non-capitalised lease finance (Imhoff, Lipe and Wright, 1993; Ely, 1995). Findings appear to suggest that leasing obligations make a significant contribution to the association tests on market risk. These studies are examined in Part 3 of this thesis: Operating lease recognition in the UK assessment of equity risk.

Adedeji and Stapleton found a negative relationship between finance lease ratios and debt ratios for their sub-sample of leasing firms. However, finance leasing did not appear to be a perfect substitute for debt, rather £1 of finance lease was found to displace approximately £0.55 of debt (i.e. α taking a value of less than one and greater than zero). These findings contradict the positive relationship found by Ang and Peterson, and by Adedeji and Stapleton in the Tobit analysis for their entire sample. Adedeji and Stapleton argued that this complementary relationship between lease and debt finance was the product of differences in debt capacity between leasing and non-leasing firms. They claimed to overcome the problem by considering leasing firms in isolation, when they found lease and debt finance to be substitutes. However Ang and Peterson continued to find a complementary relationship even when they considered their sub-sample of firms engaged in leasing. Furthermore, while the explanatory variables used in the regression model are considered by Adedeji and Stapleton to be an adequate control for debt capacity differences between leasing firms, they do not explain why they consider them inadequate in controlling for differences between leasing and non-leasing firms.

Beattie, Goodacre and Thomson (2000) investigated the degree of substitutability between leasing and non-leasing debt using a comprehensive measure of leasing, which incorporated an estimate of the present value of operating lease liabilities. On average, operating leases were estimated to be approximately thirteen times larger than finance leases. The use of a comprehensive measure of leasing was, therefore, justified and considered an improvement on the partial measures used in prior UK studies. The relationship between leasing and non-leasing debt was examined for 300 listed industrial and commercial firms over the period 1990 to 1994. Measures of asset structure, growth opportunities, size, industry classification, tax and liquidity were used to control for debt capacity differences across firms. Empirical results suggest that total leasing and non-leasing debt appear to be substitutes, with £1 of leasing displacing, on average, £0.23 of non-leasing debt (i.e. α takes a value of less than one and greater than zero). However, a positive relationship was found between finance leases and debt for both the entire sample and a sub-sample of leasing firms. These findings are consistent with those of Ang and Peterson, and in

conflict with Adedeji and Stapleton's findings of a negative relationship for their sub-sample of leasing firms.

Other studies: Belgium

Deloof and Verschueren (1999) investigated lease-debt substitutability for a sample of 1066 large non-financial Belgian firms over the period 1992 to 1994. They suggested that this setting provided an interesting case for investigation, because in Belgium the lessee is considered to be the fiscal owner of assets and thus claims any tax allowances, compared to the lessor claiming tax allowances in the US and UK. Deloof and Verschueren closely followed Ang and Peterson's and Adedeji and Stapleton's methodology. They found a significantly negative relationship between financial leasing and the use of long-term debt, irrespective of whether firms use leasing or not. However, there was no evidence of a one-to-one relationship, and thus perfect substitution.

3.12: Summary: Lease-debt substitutability theory and evidence

The evidence concerning the relationship between lease and debt finance in corporate capital structures, summarised below, appears to some extent mixed.

Setting	Researchers	Value of α
UK	Drury and Braund (1990)	$0 < \alpha < 1$
US	Bayless and Diltz (1986)	$\alpha > 1$
US	Ang and Peterson (1984)	$\alpha < 0$
US	Kare and Herbst (1990)	$\alpha < 0$
US	Marston and Harris (1988)	$0 < \alpha < 1$
UK	Garrod (1984)	$\alpha < 0$
UK	Narayanaswamy (1994)	$0 < \alpha < 1$
UK	Adedeji and Stapleton (1996)	$0 < \alpha < 1$
UK	Beattie, Goodacre & Thomson (2000)	$0 < \alpha < 1$
Belgium	Deloof and Verschueren (1999)	$\alpha > 0$

However, the majority of previous studies have considered only the use of finance leases and ignored operating leases. This appears to be a serious failing in light of evidence to suggest a predominant and prolific use of operating leases in both the UK and US in recent years (Marston and Harris, 1988; Beattie et al., 1998).

Marston and Harris (1988) and Beattie et al. (2000) pioneered the inclusion of operating leases in the lease-debt substitutability issue in the US and UK, respectively. Evidence from both studies suggests that leasing and non-leasing debt appear to be at least partial substitutes. A firm's capital structure and its capacity for debt appears to influence the use of leasing. The determinants of leasing should, therefore, not be considered independently from the determinants of capital structure. Previous studies in which the leasing decision has been considered in isolation thus appear somewhat incomplete. The inclusive approach adopted in the present study appears to be necessary.

Chapter 4: Method used to investigate corporate financing and leasing decisions

4.1: Selection of research methods

The two broad research questions addressed in the present study are 'what are the determinants of corporate capital structure?' and 'what determines corporate leasing policy?' Due to the pre-existence of both capital structure theory and theoretical reasons for leasing, the present study is primarily deductive in approach, i.e. it involves testing existing theory.

Buckley, Buckley and Chiang (1976) suggest four possible research strategies for testing existing theory. Firstly, opinion research in which views, opinions and appraisals with respect to the particular research question are sought. Secondly, empirical research which involves observation, and obtaining experience in relation to the research question. This occurs in one of three possible domains, by case study, field study or in a laboratory setting, all of which differ in terms of the degree of experimental design and control. Experimental design refers to the presence of formal hypotheses and research procedures, whereas control refers to the ability to isolate and manipulate variables in order to study relationships. Both experimental design and control are evident in a laboratory setting, experimental design is also present in a field study, whereas both are absent in a case study situation. Thirdly, archival research, which is concerned with the examination of recorded facts. Finally, analytical research, which involves applying logic to the component parts of a research question.

Several of these research strategies could be adopted in response to the questions of how capital structure and leasing policy are determined. Answers could be found by asking those making capital structure/leasing decisions what they think (opinion research) and what they actually do (empirical research). Real decision-making could be observed in action, or observed by presenting decision-makers with hypothetical situations (empirical research). Previous capital structure and leasing decisions could also be analysed (archival empirical research).

In reality, these related research questions have been addressed in two principal ways. Firstly, using an archival empirical approach, by investigating corporate management's previous actions through analysing accounting data. Secondly, by investigating corporate management's experience, intentions and perceptions by survey (empirical field study and opinion research). Both of these approaches have the potential advantage of drawing on large samples, which facilitates inference to large populations. An empirical case study approach, whilst determining the capital structure and leasing policies in specific corporations, does not enable generalisations to be made. Subsequently, it does not yet appear to have been adopted in this area of research. However, if and when the determinants of capital structure and leasing policy are generally established, it would be useful to determine how specific corporations differ from the general theme. Capital structure and leasing policy does not appear to have been widely examined by presenting decision-makers with hypothetical situations. Although this approach has the advantage of obtaining a general consensus to specific situations, in reality decision-makers face a wide range of situations, which vary in magnitude in relation to the individual corporations being managed. Thus, previous investigations have tended to concentrate on experiencing capital structure and leasing decisions from within individual business contexts.

Numerous US and UK studies[1] have taken the archival empirical approach by comparing the characteristics of leasing and non-leasing companies, and by using regression analysis to determine relationships between levels of leasing and other firm characteristics. The relationships between gearing and other firm characteristics have also been investigated[2]. Although each study provides incremental evidence, it is difficult to grasp an overall picture from this type of analysis alone. In addition such studies require proxies for firm characteristics. Different studies have used different proxies to measure the same characteristics and, in some cases (not surprisingly) have obtained conflicting results. Further, it is

[1] Comparisons: US ~ Kare and Herbst (1990); Krishnan and Moyer (1994). UK ~ Lasfer and Levis (1998). Regressions: US ~ Ang and Peterson (1984); Bathala and Mukherjee (1995); Sharpe and Nguyen (1995), Graham et al. (1998), Duke et al. (1999), Mehran et al. (1999). UK ~ Adedeji and Stapleton(1996); Beattie et al. (2000).

[2] US ~ Toy et al. (1974); Ferri and Jones (1979); Bradley, Jarrell and Kim (1984); Kester (1986); Titman and Wessels (1988); Barton et al. (1989); Chang and Rhee, (1990).
UK ~ Bennett and Donnelly (1993) and Adedeji (1998).

not entirely certain whether the proxies used are measuring the characteristic being tested or some other underlying variable.

The present study was therefore based on the second approach and involved a questionnaire survey. A questionnaire provided the scope to obtain a wide range of information in relation to corporate capital structures and leasing policy. This method is not without problems. The collection of sufficient data for meaningful analysis lies in the hands of respondents. Also there is a risk that respondents either reply out of context (i.e. they indicate what they believe should happen in capital structure and leasing decision-making rather than what actually happens), or they fail to understand what is actually being asked. However, such problems can be addressed by taking steps to increase response rate, and by using carefully worded questions (Kerlinger, 1979). Furthermore, there does not appear to be a survey investigation into UK capital structure determinants in modern times, or a survey investigation that extensively considers both leasing and capital structure determinants anywhere at any time.

4.2: Method of delivery

The complexity, technical nature and scope of the subject matter, and the requirement to produce a large representative sample precluded the use of face-to-face or telephone delivery. A mail survey was, therefore, adopted. This has the advantage of allowing respondents to visually absorb each question and the context of a series of questions. It also enables respondents to take their time in answering questions, at their own convenience (Mangione, 1995).

The growth of the Internet and e-mail users provides an alternative method to traditional mailing. The use of e-mail delivery would be less costly in terms of both time and money, and it has been shown to yield faster survey returns (Tse, 1998). However, the response rate using e-mail has been shown to be lower in comparison to traditional mailing. E-mail can be deleted at the touch of a button without any regards for the contents, whereas an envelope is, at least, usually opened. Although the majority of companies provide a contact e-mail address, the personal e-mail address of individual personnel is less easily available. For these reasons, a decision

was taken to mail hard copies of the questionnaire. However, once contact had been established, e-mail was considered a desirable option for follow up interviews.

4.3: Sample selection and mailing list construction

A sample of finance directors from the population of UK quoted and industrial companies were selected as recipients for the questionnaire. Quoted companies were selected on the basis of their economic significance. Industrial companies were selected on the basis that the majority of their leasing activity is conducted as lessees, and in the present study, it is the users of leasing whose views are sought.

Financial companies were, thus, excluded on the basis that the majority of their leasing activity is conducted as lessors. Financial companies include traditional banks and finance houses, the majority of which are members of The Finance and Leasing Association (FLA) and are substantial providers of lease finance. (For example, FLA members extended lease agreements for approximately 19% of all new fixed capital investment in plant, machinery, vehicles, ships and aircraft in 1997). Property companies and insurance companies are major lessors of commercial land and buildings in the UK, and investment trusts tend to operate in shares rather than 'real assets'. Furthermore, any leasing activity conducted as lessees by financial companies has been shown to be fairly insignificant compared to that of industrial companies (Edwards, 1997).

The sample was selected from companies on the UKQI list in Datastream. The UKQI list was obtained in March 2000 for all companies with year-end accounting data between the 1st January 1998 and 31st December 1999. This period was chosen to ensure any companies changing their year-end and not reporting in 1999 were included, and also because, at the time the list was extracted, Datastream had not been updated to 31st December 1999. The availability of year-end data was considered important for the further analysis of responses and to facilitate comparisons between respondents and non-respondents when testing for non-response bias.

The list extracted comprised 1311 companies, but it was recognised that companies that had since de-listed would be included. However, it was envisaged that these companies would be identified and removed during the mailing list construction process.

The mailing list was constructed by displaying the extel card for each company in the commercial database Sequencer. The addresses, telephone-numbers and finance directors' name were copied and pasted into a spreadsheet. Sequencer was used to identify whether companies were in receivership/administration or had merged. In such cases they were removed from the mailing list, as a response was considered unlikely. The Hemscott web-site was also used in an attempt to fill any gaps in the data (www.hemscott.com/equities/compindx.htm).

In previous surveys, many questionnaires have been returned unopened because they were mailed to the wrong or incorrect address, or because the addressee no longer worked for the company (Yammarino, Skinner and Childers, 1991). For this reason, the integrity of the mailing list was assessed. The contact details obtained from Sequencer, for 35 companies, were checked against information provided in the 1999 Stock Exchange Yearbook.

Out of the 35 companies checked, six discrepancies (between the two sources) were identified in the finance director's name, three discrepancies in address and four in telephone number. Although Sequencer appeared to provide details of the most recently appointed finance director (in some cases it provided the previous finance director which matched the yearbook), details were further checked against individual company web-sites. There were fewer discrepancies found between the details provided on Sequencer and those disclosed on web-sites, restoring, at least, some confidence. However the existence of some discrepancies, the absence of a number of finance director's names, and the possibility that some finance directors might operate at locations other than the company address, prompted further action.

Each company was contacted by telephone in May 2000 prior to commencing the mailing. This was an extremely laborious and time-consuming task. It also required sensitive handling. Some companies refuse point blank to disclose details over the

telephone, however the majority were willing to offer confirmation and even correct details already held on file. The telephoning process further identified companies that had de-listed, merged, were in the process of being taken-over or were in administration or receivership, and could thus be removed from the mailing list. The final list comprised 1246 companies, after 20 companies had been randomly selected and removed for use in pilot testing. The telephoning process provided corrections, ranging in scale from one incorrect digit in the post-code to complete names and addresses, for 42% of the 1246 companies. On this basis, the necessity of telephone contact to ensure the integrity of the mailing list was confirmed.

In order to maximise the number of completed returns, the questionnaire needed to reach as many of these finance directors as possible. However, a sample of finance directors was also required as recipients of the lease accounting reform questionnaire. It was recognised that sending two questionnaires from the same source in the same time period would be likely to adversely affect response rate. Therefore, it was decided that each of the 1246 companies would receive one of the two questionnaires. The lease accounting reform questionnaire was shorter in length, considered extremely topical, and thought likely to achieve a better response. On this basis, it was decided that a third of the mailing list would receive it, leaving two thirds to receive the financing decision-making questionnaire. Consequently, systematic random sampling was used to obtain the final sample of 831 companies.

4.4: Survey instrument

4.4.1 Content development

The content of the questionnaire was derived after an extensive review of existing theory and empirical evidence.

In relation to capital structure determinants, the static trade-off theory, agency theory, pecking-order theory, stakeholder theory, corporate strategy and control considerations formed a framework. A company management perspective was adopted because it is their decision-making that is under investigation. From their

perspective, the advantages and disadvantages of issuing debt arising from the above theories were identified, along with the environments in which these advantages or disadvantages were mitigated or enhanced. Previous empirical evidence, based on both the regression type studies of company management's past actions and surveys of their intentions/perceptions, was allocated according to these advantages, disadvantages and environments. The process for analysing leasing decisions was essentially the same. In this case, benefits to company management were grouped in terms of tax saving, borrowing capacity and repayment, risk sharing and other financial/transactional reasons to form a framework. This complete analysis formed the basis of what the questionnaire needed to address.

Having established the information required from the questionnaire, it was necessary to consider the vehicle to obtain it - the questions. Mangione (1995) notes that it is a significant task to produce a series of questions from scratch, and recommends that prior work provides a 'tremendous boost'. On this basis, previous surveys of capital structure and leasing policy were systematically analysed in detail to determine exactly what questions were asked and the reasons/purpose for asking the questions. This process was undertaken for four US surveys on capital structure (Scott and Johnson, 1982; Pinegar and Wilbricht, 1989; Norton, 1989; Graham and Harvey, 2001) and an Australian, Japanese and UK survey on debt capacity (Allen, 1991). In addition four UK leasing surveys were analysed (Fawthrop and Terry, 1975; Hull and Hubbard, 1980; Mayes and Nicholas, 1988, Drury and Braund, 1990) along with three US studies (O'Brien and Nunnally, 1983; Mukherjee, 1991; Bathala and Mukherjee, 1995) and one based in India (Narayanaswamy, 1992).

Based on the relevance to the present study, all the questions asked in each of these previous surveys were classified into one of three categories: 'include', 'don't include' and 'open for discussion'. Those classified as 'include' were directly related to the information sought in the present study, whereas those classified as 'don't include' were not in any way related. The questions classified as 'open for discussion' were indirectly related or the answers to them were considered of supplementary relevance. The questions classified as 'don't include' were disregarded at this stage. Those classified as 'open for discussion' were considered further by balancing the benefit to obtaining additional information against the risk

of impinging response rate with an increasingly lengthy questionnaire. They were thus re-classified as either 'include' or 'don't include'.

In some cases, there were several questions classified as 'include', which essentially provided the same piece of information. Therefore, these questions were further classified as 'directly include' or 'indirectly include' on the basis of what was thought to be the most appropriate wording. Those classified as 'directly include' formed the basis of the first draft of the questionnaire, along with a few questions constructed to obtain information not previously addressed. The questionnaire then underwent several re-drafting stages in which the wording of questions was modified and the ordering of questions considered.

4.4.2 Pilot testing

It is advocated that the use of more than one pre-test enhances the final version of a questionnaire (Mangione, 1995). After progressing through several draft forms, the questionnaire used in the present study was informally tested at The Department of Accounting, Finance and Law's annual research day in February 2000. An outline of the questionnaire development process along with the intended administrative procedures was presented, and an early draft of the questionnaire circulated. Any criticisms and suggestions for improvement were requested. Unfortunately the feedback received was limited.

A later draft of 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[3]. Contacts at the Association of Corporate Treasurers and The Finance and Leasing Association were also mailed, along with two professors of finance in The Department of Accounting, Finance and Law.

The questionnaire was accompanied by a covering letter (Appendix 1) and a set of pilot testing questions (Appendix 2). The letter requested assistance to 'pilot test a questionnaire which has been designed to provide insight into the corporate

[3] Many researchers suggest trying out all survey procedures on a small scale initially (Sletto, 1940)

financing decision-making processes of UK companies'. Participants were advised that they had been selected as part of a small group to complete the questionnaire and provide feedback concerning the clarity, ambiguity and relevance of questions. They were assured confidentiality and provided with a stamped self-addressed envelope to return the questionnaire, irrespective of their ability/willingness to participate.

The pilot testing questions investigated initial reaction to the subject matter, the format/layout, and the length of the questionnaire. Participants were also asked to indicate how much time it had taken to complete it. They were asked which questions seemed most relevant/least relevant, and whether any were unclear, ambiguous or difficult to answer. Opinions on the ordering of questions and the instructions for completion were also sought. Approximately 10 days after the pilot mailing, non-respondents were contacted by telephone to establish if they would be participating.

The response to the pilot testing is summarised in Table 4.1. Two out of the ten finance directors completed the questionnaire and answered the pilot questions. The two professors of finance also completed the pilot questions, as did the contact at the Association of Corporate Treasurers. The feedback from these five sources is summarised in Table 4.2. Aside from the general comments, participants indicated that a few specific questions lacked clarity. The wording of these questions was subsequently addressed and modified appropriately.

The comments concerning the length of the questionnaire and the time taken to complete it were cause for concern. As a result, each question was carefully scrutinised, with the aim of finding questions it might be possible to disregard without seriously reducing the information obtained. However, there didn't appear to be any questions that could be classified as irrelevant. Consequently, a decision was taken to maintain the questionnaire length and concentrate on increasing response rate by other means. It was also thought that the size of the questionnaire would become impractical if the typeface was increased, as suggested by one participant.

Table 4.1: A summary of the response to pilot testing

Persons mailed	Company/Organisation	Nature of response
Professor of Finance	Departmant of Accounting, Finance & Law	Completed pilot questions
Professor of Finance	Departmant of Accounting, Finance & Law	Completed pilot questions
Technical Officer	The Association of Corporate Treasurers	Completed questionnaire and pilot questions
Head of Asset Finance	The Finance and Leasing	No suggestions for any draft changes
Finance Directors	UK quoted industrial companies	Two companies: Completed questionnaire and pilot questions Two companies: Unable to contact by telephone so no confirmation of non-participation Six companies: Non-participation on the basis of: -Finance director does not take part in surveys -Unable to assist -On holiday-unsure of participation -Will not be participating -Company policy not to participate in research surveys -Too busy to participate

Table 4.2: A summary of the general feedback from pilot testing questions

Question Area	Comments received
Subject matter	"Not of great relevance to our company" "One which has received little attention from our group" "Very interesting" "Fine" "Useful topic of research"
Length	"15 minutes to complete - too long" "Too long" "15-20 minutes to read through. Some of the multisection questions have too many parts- do not want recipient to lose interest/motivation/momentum" "Too long - about 45 minutes" "20 minutes - maybe too long for some respondents"
Format/Layout	"Like most questionnaires, large parts seem irrelevant to our company" "OK" "Very tidy and easy to use" "Type face to small and too similar statements in succession requiring re-reading" "OK"
Instructions for completion	"No view" "OK" "Change front cover from 'unwilling to answer any questions' to 'do not wish to answer'" "Alright" "OK"
Ordering of questions	"No view" "OK" "As the UK corporate debt market is small relative to other non-equity financing instruments would you want to begin with questions concerning a hierarchy of financing sources and the importance of factors in choosing amounts of debt, rather than target capital structure questions" "OK"
General observations	"Most questions are irrelevant to us as we are conservatively financed, having no debt or leasing" "It would be helpful to have official sponsorship for the questionnaire" "Too technical. All questions seemed relevant. Most assumed a structured approach to the subject. Also non-financing motivators need to be considered" "We would be very interested in seeing the results of your survey"

In respect of the completion instructions, altering the slightly antagonistic statement 'if you are unwilling to answer any questions' to 'if you do not wish to answer any questions' was considered sound advice.

Respondents are more likely to respond to surveys that they consider important or prestigious (Mangione, 1995 and references therein). On this basis, the suggestion of official sponsorship by a recognised body had already been considered. A research proposal was submitted to the Institute of Chartered Accountants for England and Wales (ICAEW). However, their acceptance of the project and award of funds did not coincide with the time of mailing. Therefore, it was not possible to benefit by communicating ICAEW sponsorship to possible respondents.

Perhaps the most useful feedback from pilot testing was that one participant thought that most questions were irrelevant if a company had no debt or leasing. Although this was the case for some questions, it was by no means for all. For example, respondents might still maintain target proportions of debt and equity even if the target proportion of debt is zero. To avoid any further misunderstandings, the questionnaire was modified to include definitions of key terms up front, prior to their use in actual questions.

4.4.3 Final version

The final version of the questionnaire comprised 13 pages of questions divided into four sections (Appendix 3). Back to back printing was used to give a lighter appearance and it was professionally produced in a booklet form. The outer cover was coloured blue with the University of Stirling crest reproduced on the front in order to attract respondents' attention[4]. The front cover was also used to give notes about the questionnaire and contact details. Respondents were asked not to let their responses to any questions be affected by other questions which they either did not wish to, or were unable to answer. They were also asked to follow instructions, as not all questions applied to all respondents. The confidentiality of answers was

[4] Bourque and Fielder (1995) suggest colour and varied print as an eye-catching technique. A few studies show that the colour of the questionnaire cover affects response rates, with colour being more effective than white (Gullahorn and Gullahorn, 1963; Pressley and Tullar, 1977; Purcel et al., 1971)

stressed as respondents were assured that any information provided would not be publicly associated with their company identity at any stage.

The vast majority of questions used were close-ended requiring (i) yes/no or multiple choice answers; (ii) ranking of a group of alternatives in order of preference; or (iii) choosing from a rating scale. Five point rating scales were adopted, with categories presented in ascending order (for example: ranging from 1-not important to 5-very important or 1-strongly disagree to 5-strongly agree). The use of longer narrative type open-ended questions was more or less avoided, because of the difficulty involved in processing the information obtained from them. They were, however, included at the end of sections in the form of 'anything else?' in order to be polite and possibly obtain any additional information (Mangione, 1995). A 'don't know' response category was included in certain questions where it was thought that respondents might need to express it. However, it was not universally included on the basis that if 'don't know' categories are provided, more respondents will use them (Mangione, 1995).

Attention was drawn to definitions of the key terms used in questions on the content page. Respondents were specifically asked to interpret capital structure as the mix of debt finance and equity finance. Debt finance was defined as long-term debt, short-term debt and leasing; and equity finance was defined as internal reserves (e.g. retained profit) as well as ordinary and preference share capital. Target capital structure was described as a policy of using approximately constant proportions of debt and equity finance including a policy of using zero debt finance.

Section A contained 21 questions requesting information about the individual company's capital structure decision-making processes. A summary of the questions asked is shown in Table 4.3. The area of investigation and source of the questions is shown in Table 4.4. Questions 1 to 4 related to target capital structure. They required information concerning the existence of targets, an indication of the target amount of debt, who/what influences targets and the frequency with which they are reviewed. Question 5 investigated how flexible capital structure decisions are in relation to investment and dividend decisions. Question 6 investigated whether companies follow a hierarchy of financing sources and which were considered the

Table 4.3: Summary of capital structure questions in section A

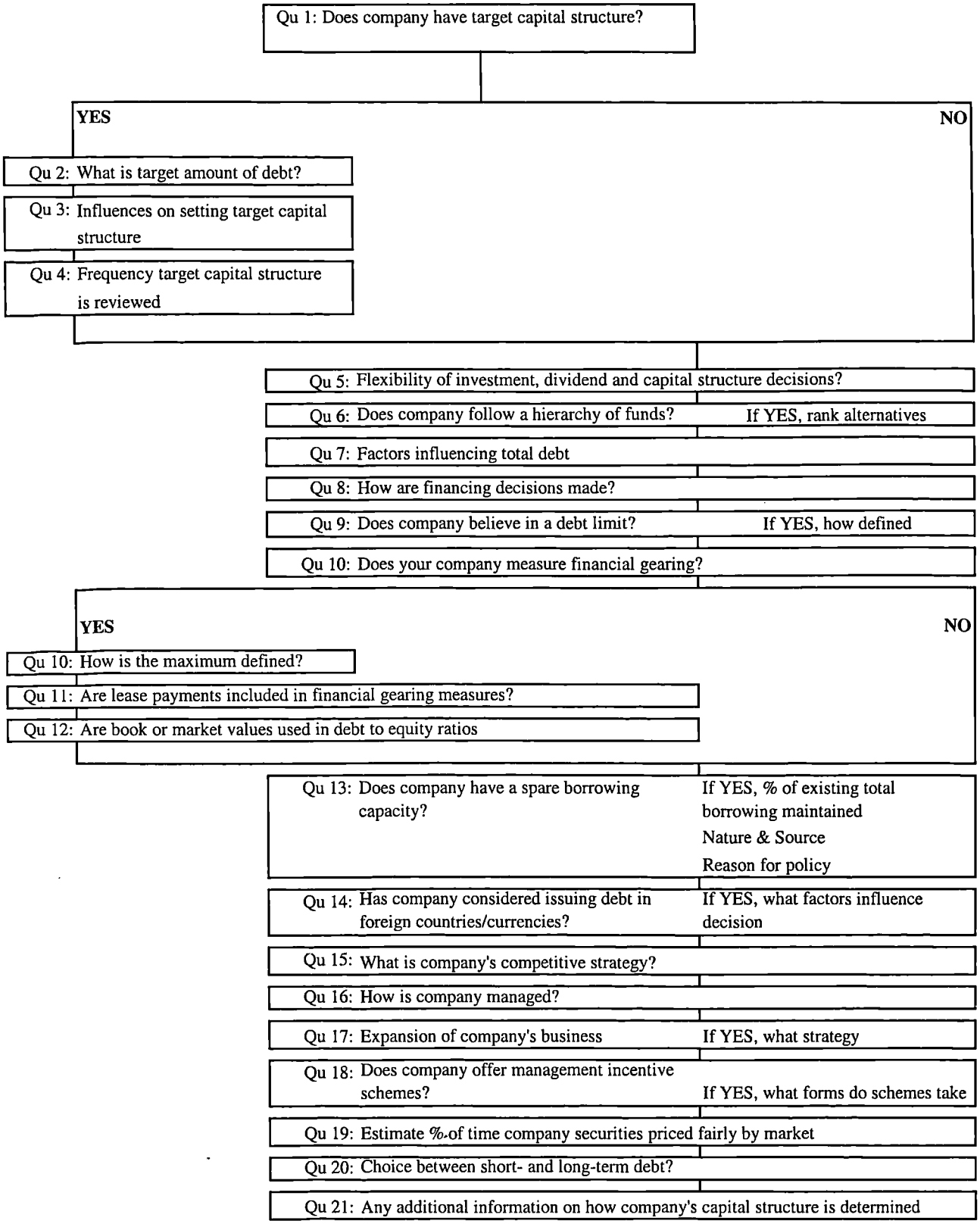


Table 4.4: Area of investigation and source of questions in sections A & B

Question Section A		Area of investigation	Source	
			Researchers[1]	Question
1		Static trade-off theory	P & W G & H	1 11
2		Static trade-off theory	Own	
3		Static trade-off theory	S & J (modified)	12
4		Static trade-off theory	Own	
5		Static trade-off theory versus Pecking order theory	P & W	5
6		Pecking order theory	P & W (modified)	1
7	(a)	Interest tax shield benefit of debt	P & W	6
	(b)		and	
	(c)		G & H	12
	(d)	Financial distress potential of debt	P & W, G & H	6, 12
	(e)		P & W	3
	(f)		G & H	12
	(g)	Agency cost of debt	P & W	6
	(h)	Corporate control/Pecking order	P & W	6
	(i)	Financial distress potential	P & W	6
	(j)	Agency benefit of debt	G & H	12
	(k)	Corporate control	G & H	12
	(l)	Environment considerations	N; G & H	1, 5
	(m)	Pecking-order/financial distress	G & H	12
8		Finance director's influence in decision making	Own	
9		Debt capacity	S & J (developed)	12 & 13
10		Financial gearing	S & J	3
11			S & J	4
12			S & J	5
13		Debt capacity	A	
14		Environment considerations	G & H	8
15		Strategic environment	J, L & T	
16			B	
17			B	
18		Personal stake of managers	M,T & Y	
19		Asymmetric information/market efficiency	P & W	4
20		Duration of debt finance	G & H (modified)	5
Section B				
1	(a)	Interest tax shield benefit of debt	N	20-22
	(b)	Interest tax shield benefit of debt	N	20-22
	(c)	Static trade-off theory	N	1
	(d)	Stakeholder theory	N	1
	(e)	Stakeholder theory/ financial distress potential	N	25
	(f)	Agency cost and benefit of debt	N	8
	(g)	Asymmetric information and signalling	N	7
	(h)	Agency cost and benefit of debt	N	10
	(i)	Asymmetric information and signalling	N; P & W	1, 6
	(j)	Asymmetric information and signalling	N	3
	(k)	Asymmetric information and signalling	N; G & H	4, 10
	(l)	Asymmetric information and signalling	N	9
	(m)	Asymmetric information and signalling	G & H	12
	(n)	Corporate control	G & H	10
	(o)	Pecking order theory	G & H	13
	(p)	Asymmetric information and signalling	N	1
	(q)	Transaction costs	G & H	13

[1]P & W: Pinegar and Wilbricht (1989); G & H: Graham and Harvey (2001); S & J: Scott and Johnson (1982)
N: Norton (1989); A: Allen (1991); J, L & T: Jordon, Lowe and Taylor (1998); B: Belkaoui (1999);
M, T & Y: Mehran, Taggart and Yermack (1999)

most/least favourable. The relative importance of different factors in choosing the amount of total debt was addressed in question 7. Question 8 asked how financing decisions are made and question 9 investigated the existence of a debt limit and how it is defined. Questions 10 to 12 asked about measuring financial gearing, is it measured and if so how? Question 13 investigated the existence, scope, nature, source and reason for maintaining spare borrowing capacity. The issue of debt in foreign countries/currencies was considered in question 14. Questions 15 to 18 were concerned with company policy or strategy in relation to competition, management, expansion and incentive schemes. Respondents views on market efficiency were investigated in question 19, and the choice between short and long term debt in question 20. Finally, question 21 asked for any additional information on how respondents' capital structure is determined.

Section B contained one large multiple sectioned question designed to gauge respondents' attitudes to general statements regarding the determinants of capital structure.

Section C contained 10 questions requesting information about the individual company's leasing policy. A summary of the questions asked is shown in Table 4.5, and the areas of investigation and source of questions in Table 4.6. Question 1 investigated the past, current and future use of leasing. Respondents who had no experience of, or inclination to use leasing, were exempt the next seven questions. Question 1 went on to further investigate the use of both finance and operating leases over different time horizons for different types of asset. Questions 2 and 3 investigated the basis on which leasing decisions are made and to which alternative sources of finance is leasing compared. Question 4 considered how leasing fits in with overall financing decisions. Question 5 covered the relative importance of factors in the decision to lease both land and buildings and other assets[5]. Questions 6 and 7 investigated the use of lease agreements with contingent elements and agreements with an interest in residual values. All respondents were asked to complete the final three questions. Question 8 investigated respondents' perceptions of the relationship between both operating leases and finance leases and borrowing.

[5] An explanation as to why the decisions to lease land and buildings and other assets were investigated separately can be found in chapter 5.

Table 4.5: Summary of leasing questions in section C

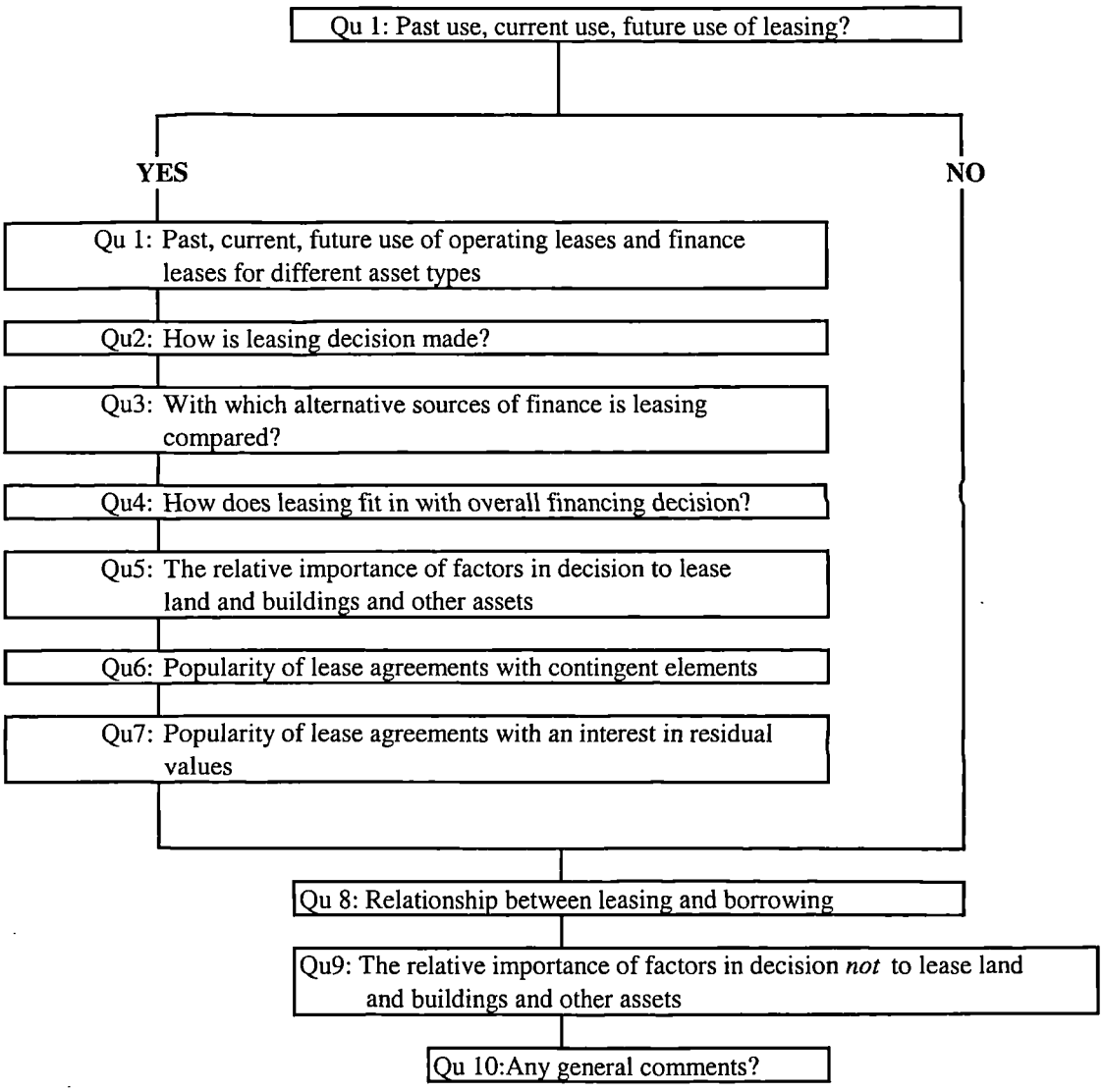


Table 4.6: Area of investigation and source of questions in section C

Question		Area of investigation	Source	
			Researchers[1]	Question
1		Use of leasing	F & T	1
			H & H	1
			M & N	1 & 2
			B & M	1
2		Is leasing an investment/financing decision	F & T	14
			O & N	2
			D & B	7
			M	4
			B & M	4
3		Choice of funds other than leasing	D & B	8
4		How leasing fits with overall financing decision	Own	
5	(a)	Borrowing capacity and repayment reasons	M & N	4
	(b)	Cash flow considerations	M & N	4
	(c)	Cost	Own	
	(d)	Cost	H & H; D & B	2, 1
	(e)	Other financial/transactional reasons	D & B	1
	(f)	Other financial/transactional reasons	D & B	1
	(g)	Borrowing capacity and repayment reasons	D & B	1
	(h)	Borrowing capacity and repayment reasons	D & B	1
	(i)	Cost	Own	
	(j)	Borrowing capacity and repayment reasons	B & M	5
	(k)	Borrowing capacity and repayment reasons	Own	
	(l)	Borrowing capacity and repayment reasons	F & T	8
	(m)	Borrowing capacity and repayment reasons	M	6
	(n)	Cash flow considerations	H & H	2
	(o)	Tax saving reasons	Own	
	(p)	Risk sharing reasons	Own	
	(q)	Risk sharing reasons	Own	
	(r)	Risk sharing reasons	Own	
	(s)	Risk sharing reasons	Own	
	(t)	Risk sharing reasons	Own	
	(u)	Borrowing capacity and repayment reasons	Own	
	(v)	Other financial/transactional reasons	Own	
	(w)	Tax saving reasons	Own	
	(x)	Tax saving reasons	Own	
	(y)	Tax saving reasons	Own	
6		Use of contingent rentals	Own	
7		Interest in residual value	Own	
8		Lease-Debt substitutability	F & T	9
			H & H	2
			M	5
			B & M	4
9	(a)	Cost	D & B	2
			F & T	18
			M & N	5
	(b)	Company preference	M & N	5
	(c)	Individual preference	D & B	2
	(d)	Perception of leasing	D & B	2
	(e)	Borrowing capacity and repayment reasons	D & B	2
	(f)	Risk reasons	Own	
	(g)	Tax reasons	D & B	2
	(h)	Risk reasons	Own	
	(i)	Risk reasons	Own	

[1]F & T: Fawthrop and Terry (1975); H & H: Hull and Hubbard (1980); M & N: Mayes and Nicholas (1988); B & M: Bathala and Mukherjee (1995); O & N: O'Brien and Nunnally (1983); D & B: Drury and Braund (1990); M: Mukherjee (1991).

Question 9 investigated the relative importance of factors in decisions *not* to lease land and buildings and other assets, and question 10 asked for any other general comments.

Section D of the questionnaire requested general information from respondents. They were asked if they would be willing to participate in an interview to enable the issues raised in the questionnaire to be explored in more detail. If they were willing, they were asked to indicate the preferred form of communication, i.e. face-to-face, telephone or e-mail. Respondents were also asked to provide their name and position in order to assess if they were potentially knowledgeable about financing decisions, in order to attach some credibility to responses.

Respondents were asked if they would like to receive a summary of the results for this study, across all companies and for their individual industry sectors. It was anticipated that respondents might find it interesting and valuable to make comparisons between themselves and others. This incentive provided the opportunity to say 'thank you' for respondents' time and also to possibly act as an encouragement to respond (Dommeyer, 1985; Hubbard and Little, 1988). Finally, respondents were notified of the other survey, to investigate finance directors' views on lease accounting reform, and invited to participate.

4.5: Survey administration

4.5.1 Time period

The questionnaire was originally mailed to the sample of 831 finance directors on 3rd of July 2000. Although it was recognised that this time period could coincide with the start of summer vacations, it was not logistically possible to mail both questionnaires at exactly the same time[6]. However, as the majority of companies mailed were based in England, where traditional holiday periods span mid July to the end of August to coincide with schooling, the timing was not considered to be problematic. In addition, total mailings (i.e. initial plus two follow-ups) covered a

[6] The lease accounting reform questionnaire progressed more quickly through post pilot modifications and printing, and was thus dispatched first in June 2000.

four-week duration, and even if potential respondents were on vacation, it was unlikely to be for the entire period.

4.5.2 Initial package

The initial package contained the questionnaire, a covering letter and a return envelope. For identification purposes, the questionnaires were sequentially numbered, by hand, on the top right hand corner after printing. Identification was considered necessary for further analysis using accounting data (collected separately from the questionnaire), and desirable for identifying non-respondents. Identification via the request for respondents' personal details in Section D of the questionnaire was not anticipated to be reliable.

Identification numbers were also printed on the covering letters, outward address labels and return address labels. All four components were matched when compiling the package. This process eliminated the risk of sending a letter addressed to one potential respondent in an envelope addressed to another. It also prevented an incorrect identification of who completed the questionnaire. Identification numbers were printed on return address labels for efficiency purposes. It allowed respondents to be identified quickly, without having to open return envelopes, when preparing further mailings to non-respondents.

Covering letter

The covering letter was professionally produced using The Department of Accounting, Finance and Law's official letterhead, depicting The University of Stirling crest.[7] Bourque and Fielder (1995) note that many covering letters create the impression of bulk mailing because they are not dated, or if they are dated, the date bears no connection with the mailing as a result of poor administrative procedures. In the present study, the covering letter was dated to coincide exactly with mailing in order to add to the impression that the views of potential respondents were important and specifically sought.

[7] Mangione (1995) notes that is essential to make it abundantly clear who is administering a survey.

The letter was addressed to each finance director personally, as this has previously been suggested to substantially improve response rate (Mayer-Sommer, 1979). It had not been possible to distinguish gender in the mailing list construction process, so to avoid any possible offence, titles were omitted, and the letter was addressed 'Dear Sir/Madam'. All letters were further personalised by the actual signature of the three researchers involved, in the hope that potential respondents would recognise the commitment to this project, and would be subsequently encouraged to respond. The academic and professional qualifications and status of the researchers were also provided, to enable potential respondents to gauge who they were dealing with.

A copy of the content of the covering letter is included in Appendix 4. An 'attention-grabbing' first sentence is said to be essential to encourage potential respondents to read on (Mangione, 1995). On this basis, the timing of the present study was particularly fortunate. It was being conducted in the first year of a new century. 'The dawn of a new millennium', as widely recognised by marketers, is a concept that evokes emotion, and of which a vast majority wants to be part. Consequently, the covering letter contained an initial request for 'assistance to provide insight into the corporate financing decision-making processes of UK companies at the beginning of the 21st century'. Mangione (1995) notes that it is important to identify why potential respondents should co-operate in a survey. Therefore, it was further stressed that finance directors of UK public limited companies were in the forefront of such decision making, and it was their experience and opinions that were of paramount importance.

The specific interest in leasing was highlighted in the covering letter, and it was noted that this was especially topical given the recent publication of the new proposals for lease accounting. However, potential respondents were encouraged to complete the questionnaire irrespective of the degree of leasing undertaken by their companies, with the aim of obtaining a balanced view. Mangione (1995) stressed the importance of an explanation of who is being asked to participate in a survey, to provide the potential respondent with an indication of how their name and address was obtained. In the present study, potential respondents were advised that they had been selected from the population of UK quoted companies. A brief explanation

that the present study was part of an ongoing project of research, and that the findings to date had been published in academic/professional journals, was used to promote credibility and status (Mangione, 1995).

The covering letter requested that all potential respondents return the questionnaire in the envelope provided. Those who decided not to participate were asked to return it blank, noting the reason for non-completion. This request was based on the suggestion that respondents might be more encouraged to complete a questionnaire rather than offer a reason of why they had declined to do so (Mayer-Sommer, 1979). It was also expected to increase the efficiency of the reminder process. It is a waste of resources to remind potential respondents who have no intention of completing a questionnaire, and would be willing to provide awareness of the fact by returning it uncompleted. Also, reasons provided for non-completion might be useful considerations for future survey research.

Return envelope

A4 envelopes were used, based on the suggestion that respondents should not have to fold questionnaires in order to return them (Mangione, 1995). The return envelope was labelled with the name and address of the survey instigator, and was pre-paid using postage stamps. It has been suggested that placing a stamp on an envelope exerts subtle pressure on potential respondents to return the questionnaire, so the 'stamp will not go to waste' (Mangione, 1995 and references therein). First class stamps were used, as second class would not exert as much pressure. Also, first class stamps facilitated faster returns.

4.5.3 Reminder process

It is suggested that, at minimum, one reminder letter should be sent to non-respondents at approximately 10 to 14 days after an initial mailing (Bourque and Fielder, 1995). In the present study, a first reminder letter was sent on 17th July 2000 (14 days after the initial mailing) to all non-respondents at that date. The letter (Appendix 5) noted that a response had not as yet been received, and reiterated the importance of respondents contribution to the survey. Contact details were provided

to request another copy of the questionnaire if required (Bourque and Fielder, 1995).

Various researchers recommend subsequent follow-ups at further two-week intervals (Bourque and Fielder, 1995; Mangione, 1995). In the present study, the second and final reminder was mailed on 1st August 2000. This mailing mirrored the initial package. It contained another copy of the questionnaire, a stamped return envelope and accompanying letter (Appendix 6). The letter again noted a response had not as yet been received, and reiterated the information provided earlier.

4.6: Questionnaire returns

On the day it was received in the mail, each return envelope was date stamped. This process identifies early and late participants, whose responses can be compared in order to gauge non-response bias (Herbert and Wallace, 1996). Also the timing of responses provides a useful indication of the effectiveness of each mailing for use in future survey research.

The information obtained from completed questionnaires was input into an Excel spreadsheet. This was a relatively simple process because the majority of questions had either numerical values attached to each answer (rating scales and orders of preference) or involved ticking sequentially labelled options. Any narrative provided by respondents was input as comments in the spreadsheet cells against respective question numbers. A list of all the comments, made by all respondents, was obtained for analysis purposes.

Simple summary statistics were obtained using spreadsheet functions. However, more complex tests were performed by transferring the data to the Minitab statistics package.

Chapter 5: Results from the corporate financing and leasing decisions questionnaire

5.1: Response profile, sample representativeness and non-response bias

The Leasing and Corporate Financing Decisions questionnaire was completed by 198 respondents; 192 from the 831 mailed (approximately 23% response rate) and 6 companies who received the Lease Accounting Reform questionnaire.

Of the remaining 639, 225 returned the questionnaire uncompleted, whilst 414 failed to acknowledge receipt. A summary of the reasons given for non-completion is shown in Table 5.1. The most popular reason appeared to be time constraints, followed by a company policy not to participate in questionnaire surveys. Only one questionnaire was returned marked 'wrongly addressed', indicating that the process of verifying finance directors' names and addresses by telephone appeared to be successful.

The response is relatively favourable considering previous surveys conducted in the UK, at a time when the business pressures on corporate personnel, were, perhaps, less acute. For example, in leasing surveys addressed to UK quoted companies, Taylor and Turley also obtained 198 responses (response rate 39.6%) over 1982 to 1983, and Drury and Braund (1990) obtained 273 responses (response rate 28%). In relation to previous capital structure surveys in the US of the Fortune 500/1000 firms, a notable decrease in response rate can be observed over time. For example, Scott and Johnson (1982) achieved 39.6% and Pinegar and Wilbricht (1989) achieved 35.2% compared to 12% by Trahan and Gitman (1995) and 8.5% by Graham and Harvey (2001). In comparison with Graham and Harvey's latest US capital structure survey, the response rate to this questionnaire is fairly impressive.

In an attempt to establish the authority of the information provided the company status of persons completing the questionnaire was requested. Of respondents who provided personal details, approximately 63% indicated they held the position of finance director / group finance director, for whom the questionnaire was intended (Table 5.2). The remainder appeared to hold other senior corporate positions.

Table 5.1: Reasons provided for non-completion

Reason for non-completion	Number of companies	Percentage of companies
No time/too busy	75	33.33
Company policy	43	19.11
Returned uncompleted with no reason	24	10.67
Regrets	15	6.67
No leasing/borrowing	10	4.44
Questionnaire N/A	9	4.00
Finance Directors left company	6	2.67
Too many questionnaires received	6	2.67
Finance Director's policy	5	2.22
Questionnaire too long/detailed	5	2.22
No resources to complete	4	1.78
Shell company	4	1.78
Company T/O	3	1.33
Finance Director away on business	3	1.33
Involved in merger	2	0.89
No Finance Director	2	0.89
Shortly delisted	2	0.89
Company involved in acquisition	1	0.44
Company under acquisition	1	0.44
Disposing of UK operations	1	0.44
Finance Director new to post	1	0.44
Nothing useful to say	1	0.44
Require charity donation	1	0.44
Wrongly addressed	1	0.44
Total	225	100

Table 5.2: Respondents' corporate positions

Position	Percentage of respondents (n=73)[1]
Finance Director/ Group Finance Director	63
Treasurer / Group Treasurer	13
Group Financial Controller	8
Other Directors	5
Finance Managers	5
CFO	3
Other	3
Total	100

[1] 125 respondents failed to provide their name and company position on the questionnaire

Approximately 125 respondents failed to provide their name and company position on the questionnaire. However this might be because the respondent was the original addressee, i.e. finance director. If this were not the case and respondents were not informed in leasing and corporate financing decision making, the validity of responses could be questioned.

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 5.3. The support service industry is most prominent in both the population and responding sample, although it is represented in a slightly higher proportion in the sample. The majority of other industry classifications appear to have similar representation in the sample and population. The telecommunication services industry, diversified industries and gas distribution industries are not represented in the responding sample. However 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 5.4. The mean total assets for the sample is 136.9% of the population's mean total assets. Therefore, the average size of companies in the sample is slightly higher than that in the population. In addition, the minimum total assets for companies in the population is £5k, compared to £701k in the responding sample. Therefore the responding sample appears to contain a slightly higher proportion of larger companies. A formal t-test confirmed that the 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.

Table 5.3:Industry classification for population and respondents

	Population		Respondents	
Industry	Number of Companies	Percentage	Number of Companies	Percentage
Support services	105	8.43	19	9.60
Construction & Building Materials	99	7.95	13	6.57
Software & Computer Services	94	7.54	15	7.58
Media & Photography	91	7.30	10	5.05
General Retailers	79	6.34	12	6.06
Household Goods & Textiles	77	6.18	12	6.06
Engineering & Machinery	76	6.10	12	6.06
Leisure, Entertainment & Hotels	76	6.10	11	5.56
Distributors	65	5.22	6	3.03
Electronic & Electrical Equipment	49	3.93	3	1.52
Restaurants, Pubs & Breweries	44	3.53	8	4.04
Food Producers & Processors	43	3.45	8	4.04
Transport	43	3.45	6	3.03
Pharmaceuticals	37	2.97	9	4.55
Health	34	2.73	8	4.04
Oil & Gas	32	2.57	8	4.04
Chemicals	25	2.01	4	2.02
Information Technology Hardware	24	1.93	3	1.52
Food & Drug Retailer	21	1.69	6	3.03
Mining	15	1.20	5	2.53
Aerospace & Defence	14	1.12	3	1.52
Packaging	14	1.12	3	1.52
Telecommunication Services	14	1.12	0	0.00
Water	13	1.04	3	1.52
Automobiles	12	0.96	3	1.52
Beverages	10	0.80	2	1.01
Electricity	9	0.72	2	1.01
Personal Care & Household Products	9	0.72	1	0.51
Steel & Other Metals	7	0.56	1	0.51
Dversified Industries	5	0.40	0	0.00
Forrestry & Paper	4	0.32	1	0.51
Gas Distribution	3	0.24	0	0.00
Tobacco	3	0.24	1	0.51
TOTAL	1246	100.00	198	100.00

Chi-square=7.695 p=0.464

Table 5.4: Total assets profile for population and respondents

	UKQI Population	Sample of Respondents	Test Statistic	p
N	1246	198		
Mean (£'m)	637	872	-1.25	0.21
Median (£'m)	52	71		
Standard Deviation (£'m)	2590	2427		
Minimum (£'000)	5	701		
Maximum (£'m)	55394	17288		

The existence of non-response bias was investigated in two ways. Firstly, by comparing the responses given to key questions by early and late respondents, using late respondents as a proxy for non-respondents (Roberts, 1999). Secondly, respondents with significant leasing activity might be expected to be more motivated to respond to a 'Leasing and Corporate Financing Decisions' questionnaire, than respondents without. Therefore, the responses to key questions were further compared based on the degree of 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). Also, obtaining a combination of both finance and operating lease use would require the collection of a significant amount of data in order to follow an operating lease capitalisation process.

Early versus late respondents

Questionnaires were returned in the time period from 5th July to 29th September 2000. Respondents were classified into one of three groups, 'early', 'middle' and 'late' respondents, according to the date their completed questionnaire was received. Those received between 5th July to 11th July were classed as 'early', those between 12th July to 3rd August were classed as 'middle' and those between 4th August to 29th September as 'late'.

The responses to key questions relating to debt levels and leasing policy were analysed by early and late respondents. A comparison was made on the basis of the existence of a target capital structure, following a hierarchy of financial sources, the maintenance of spare borrowing capacity and the relative importance of factors in choosing the appropriate amount of total debt. The use of leasing, the relative importance of factors in the decisions to lease and not to lease were also compared (Appendix 7).

The differences in response to these key questions were not found to be statistically significant, with two exceptions. Firstly, late respondents placed more importance on a positive outcome to quantitative analysis in the decision to lease both land and buildings and other assets, compared to early respondents (row 4, Panel F & Panel

G). Secondly, late respondents thought that the ability of leasing to reduce/eliminate the risk of ownership was more important (row 14, Panel F and row 11, Panel G).

High operating lease users versus low operating lease users

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 0.0089, for 'medium' users 0.0090 to 0.0238, and for 'high' users 0.0243 to 0.6486[3].

The responses to the same key questions were analysed by operating lease use (Appendix 8). The differences in response to maintaining a target capital structure, following a hierarchy of financial sources, and maintaining spare borrowing capacity were not found to be statistically significant (Panels A, B & C). A greater proportion of respondents classified as high operating lease users responded positively to past, present or future use of leasing (Panel D)[4]. The differences in response to the relative importance of factors in choosing the appropriate amount of total debt were also not statistically significant (Panel E). However, high operating lease users placed more importance on the avoidance of large capital outlay in the decision to lease land and buildings (row 1, Panel F), and less importance on the rate of interest implicit in a lease agreement compared to the cost of borrowing to purchase (row 3, Panel F). The latter was also the case in the decision to lease other assets (row 1, Panel G).

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

[2] Datastream item 104

[3] One company had £24K total operating lease rental in relation to £37K sales. With the exception of this company, the highest ratio was 0.1845.

[4] Surprisingly, 17% of respondents (10 companies) classified as middle and high operating lease users failed to acknowledge past, present or future use of leasing. However, leasing was not explicitly previously defined to include both finance leases and operating leases.

The provision of total financing of an asset was considered more important, by high operating lease users, in the decision to lease other assets (row 8, Panel G). High operating lease users also placed less importance on the expense of leasing and company preference for legal ownership in the decision *not* to lease land and buildings (rows 1, 2 & 5, Panel H). However, respondents did provide some indication that certain properties are only available to lease, in which case the expense involved and preference for legal ownership would not be of issue.

In summary, the significant differences in the responses given by early and late respondents and low and high operating lease users are relatively minor. Also, there was no indication of any strongly opposing views. Therefore, the responses reported should not be unduly affected by non-response bias.

5.2: The Determinants of Capital Structure

5.2.1 General issues regarding the corporate management of capital structures

The personal influence of the finance director over company financing decisions is evident from the questionnaire responses. In approximately 77% of companies, financing decisions by the board of directors are based on the finance director's own decisions or on his/her recommendations or information (Table 5.5).

The existence of a maximum amount of debt financing that should not be surpassed was acknowledged by 69% of companies. Nearly all of respondents indicated that this maximum is defined with reference to a limit placed on balance sheet and/or income statement gearing ratios (Table 5.6).

Financial gearing is measured by 75% of respondents. The relative importance of various gearing measures is shown, in descending order of importance, in Table 5.7, Panel B. For all measures, the average response was statistically significantly different from 1, i.e. not being used. Therefore, these findings appear to suggest the use of multiple measures of financial gearing by respondents. The two measures of primary importance among respondents were an income statement measure, interest cover, measured as earnings before interest and taxes divided by total interest expense (mean=4.09, row 1), and the net debt to equity ratio (mean=3.96, row 2).

Table 5.5: How financing decisions are made

Row		Percentage of respondents (n=183)[1]
	By agreement between board of directors based on:	
1	Recommendations provided by finance director	52
2	General discussion based on individual opinions	22
3	The board of directors supports decisions made by finance director	14
4	Information provided by finance director	11

[1]Decision making processes are shown in descending order of frequency

Table 5.6: Existence and definition of maximum amount of debt financing

	Percentage of respondents (n=194)
Is there some maximum amount of debt financing that should not be surpassed?	
Yes	69
No	31

Row	How is the maximum defined?	Percentage of respondents (n=130)[1]
1	By limit of balance sheet gearing ratio	35
2	By limit of income statement gearing ratio	34
3	By limit of both balance sheet and income statement gearing ratios	22
4	By maintaining a bond rating	4
5	Other	5

[1]Definitions of maximum debt financing are shown in descending order of frequency

Table 5.7: Financial gearing measurements

Panel A:	Yes	No
Does your company measure financial gearing? (n=188)	75%	25%

Panel B:

If so what is the relative importance on the following measures?

	Question asked (abbreviated)	Response category[1]						n	Mean[2]	Standard Deviation	Rank[3]
		1	2	3	4	5	DK				
		Percentage of respondents									
1	Interest cover, measured as earnings before interest and taxes divided by total interest expense	6	4	10	36	44	0	140	4.09	1.11	1
2	Net debt divided by equity	6	6	11	36	39	0	140	3.96	1.16	1
3	Long-term debt divided by equity	5	24	21	14	6	0	127	2.34	1.26	2
4	Long-term debt divided by total debt plus equity	35	30	17	13	5	0	127	2.21	1.19	2
5	Interest cover, measured as earnings before interest and taxes divided by total interest expense plus the before tax equivalent of preference dividend payments	53	17	11	11	8	0	123	2.05	1.35	3

[1] 1-not used, 2-of little importance, 3-fairly important, 4-important, 5-very important

[2] All mean responses significantly different from not important at all (ie. 1) at 1% level (one-tailed test)

[3] Ranking based on statistical difference between adjacent mean ranks at 5% (Mann-Whitney confidence interval and test procedure in Minitab)

Panel C:

	Yes	No	Do not lease
Are fixed lease payments recognised in financial gearing measures? (n=149)	61%	21%	18%

Panel D:

	Book Values	Market Values	Both
How is debt to equity ratio measured? (n=138)	83%	12%	5%

Long-term debt divided by either equity or total debt plus equity were considered of secondary importance (mean=2.34 and 2.21, rows 3 and 4). The measure interest cover including the before tax equivalent of preference dividends was considered the least important (mean=2.05, row 5).

Among respondents who measure gearing and are engaged in leasing, approximately 75% recognise fixed finance and operating lease payments in financial gearing measures (Table 5.7, Panel C). These findings appear to suggest that the majority of company managers view lease and debt finance as substitutes.

The majority of respondents measuring debt to equity ratios use book values (83%, Table 5.7, Panel D). These findings appear to support the use of book values in empirical regression studies when analysing company managements' past actions.

A policy for maintaining spare borrowing capacity was acknowledged by 59% of companies (Table 5.8). Among respondents who were able to quantify their borrowing capacity (n=64), on average, 29% of existing long-term borrowing was maintained as spare. Respondents were asked the nature and source of their spare borrowing capacity. An overdraft facility was the most common source, being applicable to 73% of respondents. Unsecured loans, secured loans and leasing/hire purchase also featured as significant across companies. However, mortgage lending and debentures as sources of spare borrowing capacity appear to be quite rare (only applicable to 4% and 2% of respondents, respectively). The most frequently quoted 'other' source of borrowing capacity was committed facilities.

The major reason for maintaining spare borrowing capacity appears to be for unplanned opportunities, as indicated by 68% of respondents. However, another reason given by the majority of respondents was for the purpose of acquisitions (54%). A reserve for times of crisis and for special projects also featured as reasons for maintaining spare debt capacity (applicable to 44% and 31% of respondents, respectively). The most frequently quoted 'other' reason for maintaining spare borrowing capacity was volatility/high seasonal variation in cash flows.

Table 5.8: Spare borrowing capacity

Panel A:	**Yes**	**No**
Does your company have a policy for maintaining spare borrowing capacity? (n=193)	59%	41%

Panel B:

	Mean	**Standard Deviation**
Percentage of existing total long-term borrowing maintained as spare (n=64)	29	22

Panel C:
Of the 114 companies who maintain spare borrowing capacity:

Row	**Nature and source of spare borrowing capacity:**	**Percentage of Respondents[1] (n=114)[2]**
1	Overdraft facility	73
2	Unsecured Loans	32
3	Leasing/hire purchase	21
4	Secured Loans	20
5	Mortgage lending	4
6	Debentures	2
7	Other	12

[1]Percentages exceed 100% as respondents were asked to tick all applicable options

[2]Nature and source of spare borrowing capacity are shown in descending order of frequency

Panel D:

Row	**Reasons for spare borrowing capacity**	**Percentage of Respondents[1] (n=114)[2]**
1	Unplanned opportunities	68
2	For acquisitions	54
3	Reserve for crisis	44
4	For Special Projects	31
5	Other	8

[1]Percentages exceed 100% as respondents were asked to tick all applicable options

[2]Reasons for spare borrowing capacity are shown in descending order of frequency

5.2.2 The degree of capital structure flexibility

In the static trade-off theory of capital structure, companies are said to operate with a target debt/equity ratio at which the costs and benefits of issuing debt are balanced. Respondents were, therefore, asked the extent to which their company sought to maintain a target capital structure. Although 51% indicated that they did maintain a target, 37% claimed it to be flexible with only 14% being reasonably strict (Table 5.9).

The mean target amount of debt for this 51% of companies, expressed as a proportion of debt plus equity, was approximately 45%. Although target amounts of debt ranged from 0% to 300%, 80% of respondents indicated an amount of 50% or less.

The adoption of a flexible target amount of debt is consistent with actual fluctuations in debt levels being observed over time. However, the costs and benefits of issuing debt are unlikely to remain static. Therefore, actual fluctuations in debt over time could also arise from changes in the target. Respondents were asked if their target was reviewed on a regular basis, for example every three years. Two-thirds (67%) indicated this to be the case. When capital structure targets were not reviewed regularly, respondents were asked, in an open-ended question, to specify what would trigger a review. The two most frequently quoted responses were that there was a continuous review of capital structure targets, or that reviews coincided with substantial acquisition, merger and investment activities.

Respondents were asked who or what influences target capital structure ratios. The responses, ranked in descending order of importance, are shown in Table 5.10. On average, company senior management were ranked the most important (mean=1.65, row 1). Moderate importance was attached to both existing shareholders and commercial banks. There was a high variation in responses for all parties except company senior management (ranked top) and major trade creditors (ranked bottom). Although the mean ranking provides some indication of the relative importance of the suggested influences on target capital structure ratios, the Mann-Whitney confidence interval and test procedure in Minitab was used to determine statistical differences.

Table 5.9: Existence of target capital structure

	Percentage of Respondents (n=196)	
No target	48	
Flexible target	37	
Reasonably strict target	14	
Mean target amount of debt (n=85)	44.69%	
Standard Deviation	40.18%	
Minimum	0.00%	
Maximum	300.00%	
Distribution of target debt amounts:		
	n	**%**
0-25%	25	29.00
26-50%	43	51.00
51-75%	11	13.00
76-100%	3	3.50
Over 100%	3	3.50
	Yes	**No**
Regular review of targets (n=103)	67%	33%

Table 5.10: Influences upon target capital structure ratios

Row	Who/what influences capital structure?	Mean[1] (n=83)	Standard Deviation	Grouping[2]
1	Company senior management	1.65	1.54	1
2	Existing shareholders	4.10	2.23	2
3	Commercial bankers	4.77	2.45	2 3
4	Investment bankers	5.06	2.61	4 3
5	Debt Covenants	5.29	2.67	4 3
6	Outside investment analysts	5.70	2.41	4
7	Potential shareholders	5.72	2.20	4
8	Comparison with ratios of industry competitors	6.37	2.23	5
9	Major trade creditors	7.86	1.72	6

[1] 1 being the most important, 9 being least important

[2] Grouping based on statistical difference between rankings at 5%, two-tailed test (Mann-Whitney confidence interval and test procedure in Minitab)

To establish groupings of influences of similar importance, the responses to each influence in Table 5.10 were tested to see if they were statistically different (at the 5% level) from the responses to the adjacent influence. For example, were the responses in relation to the importance of 'company senior management' significantly different from those in relation to 'existing shareholders' (rows 1 and 2). In this case, the test was statistically significant, and therefore, a difference in importance can be attached to 'company senior management', grouping 1 in the final column of Table 5.10, and 'existing shareholders', grouping 2. The difference between the importance placed on 'existing shareholders' and 'commercial bankers' was not statistically significant, so grouping 2 can be extended to include 'commercial bankers'. The difference between 'commercial bankers' and 'investment bankers' was also not significant. However grouping 2 cannot be extended to include 'investment bankers', when the difference between 'existing shareholders' and 'investment bankers' was statistically significant. Therefore, 'commercial bankers', as well as belonging to grouping 2, also belongs to grouping 3, to signify the similar importance between 'commercial bankers' and 'investment bankers'. There was no statistical difference between either 'investment bankers' or 'commercial bankers' and 'debt covenants', so grouping 3 can be extended to include 'debt covenants'. Grouping 4 indicates there is no different in importance between 'investment bankers', 'debt covenants', 'outside investment analysts' and 'potential shareholders'. However these influences are significantly more important than 'comparisons with ratios of industry competitors' (grouping 5), which in turn is more important than 'major trade creditors' (grouping 6), the least important influence.

In the pecking order theory of capital structure, companies are said to relate profit and growth opportunities to their long-term target dividend payout ratios in order to minimise the needs for external funds. Investment opportunities and dividend pay-out, therefore, dictate the amount of external financing. The flexibility of the financing decision in relation to investment and dividend decisions was investigated in the questionnaire. Given an attractive new growth opportunity that could not be taken without departing from existing capital structure, cutting dividend or selling off other assets, respondents were asked what action their company would most likely take. Their responses are shown in Table 5.11. Deviating from existing

capital structure was favoured by 86% of respondents. Only 5% indicated that they would forgo the growth opportunity and 2% of the respondents would cut dividends.

Table 5.11: Most likely action given attractive new growth opportunity

	Percentage of respondents (n=194)[1]
Deviate from existing capital structure	86
Sell off other assets	15
Forgo growth opportunity	5
Cut dividends	2
Don't know	2

5.2.3 Hierarchy of financing sources

In the pecking order theory of capital structure, a hierarchy of finance sources is followed, with internal funds then debt being preferable to external equity. A hierarchy of finance sources is followed by 60% of respondents. Their rankings of long-term finance sources, from the most favoured to the least favoured, are shown in Table 5.12, Panel B. Leasing and hire purchase options were included in order to determine, for the first time, how leasing is favoured in relation to other sources of debt and equity[5].

[5] Fawthrop & Terry (1975) investigated the preference for leasing and hire purchase in relation to other sources of debt but didn't include equity and didn't consider a hierarchy of financing sources.

Table 5.12: Hierarchy of financing sources

Panel A:	Yes	No
Does your company follow a hierarchy of finance sources? (n=190)	60%	40%

Panel B:
Ranking of long term finance sources (n=112)

Row	Long-term finance source	Mean Ranking[1]	Standard Deviation	Rank[2]
1	Internal reserves	1.67	1.08	1
2	Straight debt	2.64	1.29	2
3	Finance leases	4.31	1.94	3
4	Operating leases	4.47	1.98	3
5	Ordinary shares	4.57	2.21	3
6	Convertible debt	5.98	1.78	4
7	Straight preferred shares	7.02	1.02	5
8	Convertible preferred shares	7.62	0.74	6

[1] 1-most favoured, 8-least favoured

[2] Ranking based on statistical difference between adjacent mean ranks at 5% (Mann-Whitney confidence interval and test procedure in Minitab)

Table 5.13: The relative importance of factors in choosing appropriate amount of total debt

Row	Question asked (abbreviated)	Response category[1]						Mean[2]	Standard Deviation	Grouping[3]
		1	2	3	4	5	DK			
		Percentage of respondents								
1	Ensuring long term survivability	2	2	9	28	58	1	4.41	0.88	1
2	Projected cash flow / earnings	2	1	14	41	42	1	4.21	0.84	2
3	Volatility of earnings and cash flow	3	8	28	34	25	1	3.72	1.02	3
4	Ensuring customers /suppliers aren't worried about company survival	3	11	27	37	21	1	3.62	1.04	3 4
5	Restrictive covenants	5	11	25	38	20	2	3.58	1.10	3 4
6	Level of interest rates	2	10	34	41	13	1	3.52	0.91	5 4
7	Tax advantage of interest deductions	6	20	28	25	20	1	3.34	1.18	5 6
8	Avoiding issue of equity to dilute existing shareholder's claims	4	22	34	25	15	1	3.25	1.09	6 7
9	Potential costs of bankruptcy/financial distress	28	17	11	19	24	2	2.95	1.58	8 7
10	Level of other non-taxable deductions	8	28	32	28	4	1	2.93	1.02	8
11	Preventing company becoming a take-over target	20	35	19	18	6	2	2.54	1.17	9
12	Committing cash flow to interest payments as a disciplinary control on management	18	35	29	13	3	4	2.46	1.03	9
13	Personal tax cost facing investors	32	42	17	8	1	1	2.02	0.93	10

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

[2] All mean responses significantly different from not important at all (ie. 1) at 1% level (one-tailed test)

[3] Grouping based on statistical difference between ranks at 5%, two tailed test (Mann-Whitney confidence interval and test procedure in Minitab)

As theory predicts, internal reserves were most favoured by respondents, followed by straight debt. Interestingly, leasing was favoured over ordinary shares, with finance leases being slightly more favoured to operating leases. However, a high variation in the ranking of leases and ordinary shares was evident, and the difference in average ranking between these three sources was not found to be statistically significant. The insignificant difference between finance and operating leases is surprising considering the predominant and prolific use of operating leases in recent years (Beattie et al., 1998). Convertible debt and preference shares (straight and convertible) are considered less favourable to ordinary shares and thus appear lower in the respondents' pecking order. Convertible preference shares were the least favoured source of finance. The standard deviation in rankings of this source was considerably lower compared to other sources (standard deviation=0.74, row 8), which suggests the majority of respondents were of the same opinion.

5.2.4 The relative importance of factors in choosing the appropriate amount of total debt

The various capital structure theories identify benefits and costs of issuing debt. Respondents were asked the relative importance of thirteen of these factors in choosing an appropriate amount of total debt for their company. Their responses are shown in Table 5.13 in order of importance. The mean response to all factors was significantly different from 1, i.e. not important at all. Therefore, findings appear to suggest that some degree of importance is placed on all of them.

The most importance was placed on ensuring long term survivability of the company (mean=4.41, row 1). This was closely followed by the projected cash flow/earnings from the assets financed (mean=4.21, row 2). Although there was a relatively low variation in response to the importance of both of these two factors (standard deviation=0.88 and 0.84, rows 1 and 2), the difference in response was found to be statistically significant. More respondents appeared to class ensuring long-term survivability as very important.

The volatility of the company's earnings and cash flow was considered third in importance (mean=3.72, row 3). Despite the importance placed on cash flow in

choosing the appropriate amount of debt, the potential costs of bankruptcy/financial distress were considered much less important (mean=2.95, row 9). However, the variation in response to the importance of this factor was relatively high (standard deviation=1.58, row 9). Committing cash flow to interest payments as a disciplinary control on managers was considered even less of a concern (mean=2.46, row 12).

Ensuring customers/suppliers aren't worried about company survival (mean=3.62, row 4), the restrictive covenants imposed by debt holders (mean=3.58, row 5), and the level of interest rates (mean=3.52, row 6) were all considered important factors. However, the significant difference between the importance placed on ensuring long-term survivability (row 1) and ensuring customers/suppliers aren't worried about company survival (row 4) might suggest that the risk of not being able to meet interest payments is of prime concern.

The tax advantage of interest payments was also considered fairly important (mean=3.34, row 7), but the level of other non-taxable deductions was given less consideration (mean=2.93, row 10). Avoiding the issue of equity to dilute existing shareholders claims was also considered fairly important (mean=3.25, row 8), whereas preventing the company from becoming a take-over target was much less important (mean=2.54, row 11). Least importance was placed on the personal tax cost investors face when they receive interest income (mean=2.02, row 13).

5.2.5 The choice between long-term and short-term debt

Capital structure decisions involve more than choosing an appropriate amount of debt. The period of time to repayment is also a consideration. Respondents were asked the extent of their agreement regarding the choice between short-term and long-term debt. Their responses are shown in Table 5.14, in order of agreement. On average, 51% of respondents acknowledged that they borrowed long-term in order to minimise the risk of having to re-finance in 'bad times' (mean=3.25, row 1). Matching the maturity of debt with expected asset life was also undertaken by 43% of respondents (mean=3.19, row 2).

Table 5.14: The choice between short-term and long-term debt

Row	Agreement with the following:	Response category[1] Percentage of respondents						Mean	Standard Deviation
		1	2	3	4	5	DK		
1	Borrow long-term to minimise risk of having to re-finance in bad times	9	16	23	42	9	2	3.25***	1.12
2	Maturity of debt matched with expected asset life	8	21	27	31	12	1	3.19**	1.14
3	Borrow short-term when short-term interest rates are low compared to long-term rates	14	31	32	17	5	1	2.69***	1.08
4	Borrow short-term when waiting for long-term market interest rates to	12	37	31	16	3	1	2.61***	1.00
5	Borrow short-term to enable returns from new projects to be captured more fully by shareholders	17	34	33	14	2	1	2.52***	1.01
6	Borrow short-term when waiting for credit rating to improve	36	37	22	4	0	1	1.95***	0.87
7	Borrowing short-term reduces chances of wanting to take on risky projects	37	42	16	4	1	1	1.90***	0.87

[1]1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree, DK-don't know.
*** significant at 1%, ** significant at 5% (two -tailed test of whether mean is significantly different from neutral (ie. 3))

Table 5.15: Perception of market efficiency

Row	% of time company's ordinary shares fairly priced by market:	Percentage of Respondents	n
1	0%	14	26
2	1-25%	34	63
3	26-75%	39	73
4	76-99%	13	24
5	100%	1	2
	TOTAL	100	188

On average, respondents did not appear to borrow short-term when short-term interest rates were low compared to long-term rates (mean=2.69, row 3), or when waiting for long-term rates to decline (mean=2.61, row 4). Respondents, also, did not appear to borrow short-term to enable returns from new projects to be captured more fully by shareholders (mean=2.52, row 5). Respondents strongly refuted that they borrowed short-term when waiting for credit ratings to improve (mean=1.95, row 6) or to reduce the chance of wanting to take on risky projects (mean=1.90, row 7). In relation to short-term finance, these findings appear to suggest that it is essentially chosen for the purpose of financing short-term assets over any other consideration.

5.2.6 Respondents' views of market efficiency

The choice between debt and equity could depend on whether managers perceive their company shares are fairly priced by the market. If they believe the share price is too low, they could be reluctant to issue equity and transfer value from existing shareholders. Only 1% of respondents estimated that their company's ordinary shares are fairly priced by the market 100% of the time, i.e. that the market is totally efficient (Table 5.15). Approximately 87% of respondents estimated that their company shares are fairly priced 75% or less of the time. In fact, 14% estimated that their shares are never fairly priced by the market. Findings appear to suggest that respondents generally disagree with the notion of semi-strong form market efficiency.

5.2.7 The issue of debt in foreign countries/currencies

In response to the suggestion of an increase in globalisation of capital markets (Grinblatt and Titman, 1998), the issue of debt in foreign countries/currencies was investigated in the questionnaire. Surprisingly, only 32% of responding companies had seriously considered it (Panel A, Table 5.16). Respondents who had were asked what influences the decision to issue debt in foreign countries/currencies. Their responses, in order of agreement, are shown in Panel B, Table 5.16. By far, the most important influence on the decision was to provide a natural hedge. For example, if

Table 5.16: Issuing debt in foreign countries/currencies

Panel A:	**Yes**	**No**
Has your company seriously considered issuing debt in foreign countries/currencies? (n=194)	32%	68%

Panel B:

If yes, what influences the decision?

Row		Response category[1] 1	2	3	4	5	DK	Mean	Standard Deviation
		Percentage of respondents							
1	Providing a natural hedge	2	7	2	23	67	0	4.46***	0.95
2	Locating 'source' close to 'use' of funds	10	15	15	20	40	0	3.65***	1.40
3	Favourable tax treatment	9	21	36	21	11	2	3.04	1.12
4	Foreign interest rates lower than domestic	17	17	34	20	12	0	2.93	1.24
5	Foreign regulation requiring debt to be issued abroad	40	35	20	4	0	2	1.87***	0.87

[1]1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree, DK-don't know.
*** significant at 1%, ** significant at 5% (two -tailed test of whether mean is significantly different from neutral (ie. 3))

Table 5.17: Corporate strategies and management incentive schemes adopted

Panel A: Corporate Strategies

		Percentage of Respondents	**n**
	Competitive Strategy		
1	Product differentiation	76	139
2	Unique product-no direct competition	14	25
3	Lower cost	8	15
4	Other	2	4
	TOTAL	100	183
	Management Strategy		
1	By product/service	44	82
2	Centrally	38	71
3	By geographical area	18	33
	TOTAL	100	186
	Expansion Strategy		
1	Related diversification	80	150
2	None	13	25
3	Integration	6	11
4	Unrelated diversification	1	1
	TOTAL	100	187

Panel B:	**Yes**	**No**
Management incentive schemes (n=195)	96%	4%

		Percentage of Respondents (n=188)	**n**
1	Share option schemes	90	170
2	Bonus linked to profitability	85	160
3	Bonus linked to shareholder value	31	59
4	Other	6	12

foreign currency devalues, there is no obligation to pay interest in £ sterling (mean=4.46, row 1). Locating the 'source' close to the 'use' of funds was influential in the decision made by 60% of respondents (mean=3.65, row 2). However, the variation in responses received was relatively high (standard deviation=1.40, row 2). The average response to favourable tax treatment (mean=3.04, row 3) and foreign interest rates lower than domestic rates (2.93, row 4) were not statistically significantly different from neutral. Respondents strongly refuted that foreign regulation required debt to be issued abroad (mean=1.87, row 5). The responses given by UK finance directors in this survey mirrored those recently obtained in the US (Graham & Harvey, 2001).

5.2.8 Corporate Strategy

Recent capital structure research has related the mix of debt and equity to corporate strategy in terms of growth, competition and management/control.

Competition

The competitive strategy adopted is said to determine the nature of assets employed by a company, which in turn influences debt levels (Jordon, Lowe and Taylor, 1998). In companies that take a cost leadership approach, competition is in terms of offering widely available products/services at low cost. If products/services are widely available or standardised, the assets required to produce or sell them are likely to be *tangible* and flexible. In companies that take a product innovation approach, competition is in terms of offering unique products/services with less emphasis on price. The development, production and sale of unique products/services might involve significant research and is likely to be available on a smaller scale. Therefore, the assets required are likely to be firm specific, more *intangible* and less easily redeployed. Competition in terms of product differentiation is a strategy in between the other two. Products/services offered are differentiated from similar alternatives.

It is suggested that companies with intangible, inflexible assets have an increased potential for financial distress and a decrease in their ability to borrow due to lack of

collateral. Therefore, companies with a product innovation competitive strategy should have the lowest proportion of debt, followed by companies adopting product differentiation strategies. Companies with cost leadership strategies should have the highest proportion of debt.

Respondents were asked to classify themselves in terms of alternative competitive strategies. Their responses are shown in Panel A of Table 5.17. Product differentiation was the most popular competitive strategy among respondents, being adopted by 76%. Approximately 14% of respondents claimed to experience no direct competition as a result of the unique nature of their products, and 8% compete by professing to offer products at a lower cost than their competitors.

A comparison of respondents' gearing ratios according to the competitive strategy adopted is shown in Appendix 9. On average, respondents with cost leadership strategies appear to have the highest total gearing ratios and long-term gearing ratios (means = 1.108, Panel A and 0.39, Panel B respectively); and respondents with unique product strategies the lowest (means = 0.346, Panel A for total gearing and 0.145, Panel B for long-term gearing). The differences in mean total gearing ratios according to the competitive strategy adopted were found to be statistically significant. The variation in total gearing is very high for respondents with cost leadership strategies as a result of one company having extremely large short-term borrowings. However, even when this company was removed from the sample, the mean total gearing for those adopting cost leadership (mean = 0.745, Panel C) was still higher than those competing in terms of product differentiation or uniqueness. These differences remained statistically significant at the 10% confidence level.

Management/control

The management or corporate control strategy adopted by companies is said to be related to debt levels (Belkaoui, 1999). There is said to be more opportunity for management to procure personal benefits at a cost to the company when control is centralised. Consequently, the agency costs from conflicts of interest between shareholders and management would be higher, increasing the cost of debt. One of the aims of decentralisation is to reduce opportunism and thus the agency costs and

subsequently the cost of debt would be less. On this basis, centrally controlled companies should have lower debt levels than divisionalised companies. If the aim is to reduce opportunism by divisionalisation, then as well as benefiting from lower agency costs of debt, debt also provides the benefit of limiting the availability of free cash flow, which further reduces opportunism.

Respondents were asked to classify themselves in terms of alternative management strategies (Panel A, Table 5.17). Approximately 62% of respondents indicated they were divisionalised, with 18% managed on the basis of geographical area and 44% by product/service. The remaining 38% indicated they were managed centrally.

Against expectations, respondents managed centrally appeared, on average, to have higher total gearing ratios and long-term gearing ratios than respondents whose companies are divisionalised (Appendix 9, Panel A and Panel B). However, the difference between the two groups was not found to be statistically significant. Moreover, when the respondent with extremely large short-term borrowings was removed from the sample, the mean total gearing for respondents managed divisionally was fractionally higher than for respondents managed centrally. Again, the difference was not statistically significant.

Growth/expansion strategy

The growth/expansion strategy adopted is said to impact on the operating risk of a company, which in turn influences debt levels (Belkaoui, 1999). If a company expands by spreading its business activities across different markets, when adopting a strategy of unrelated diversification, operating risk is reduced. The company has the potential to increase activity in one market to compensate for a decline in another. A company is also likely to hold a wider spectrum of re-deployable assets if it expands through unrelated diversification.

If a company concentrates on its existing business activity, or expands by integrating the activities of direct suppliers/customers, a decline in the market could have serious impact. When adopting these strategies, companies are said to 'have all

their eggs in one basket and are merely widening the basket in which they are kept'. In which case, operating risk would be high.

Expansion in terms of related diversification (i.e. spreading business across a range of related markets) is said to be somewhere in between. Thus, in terms of changes to market demand, the highest operating risk is said to be associated with no expansion strategy, followed by vertical integration, then related diversification, with unrelated diversification being associated with the lowest operating risk.

However it is pertinent to note that integration or related diversification strategies could be considered less risky in terms of individual market share, as an element of current expertise and knowledge would apply. Further, there is an element of risk diversifying into an unrelated market of which a company has no experience. Under these terms, unrelated diversification might be said to be associated with the highest operating risk.

On balance, the operating risk associated with changes in market demand are probably more severe, as companies have the potential to purchase expertise and knowledge in the unrelated areas they wish to diversify into. In terms of relative debt levels, it is suggested that the lower the operating risk and the more re-deployable the assets, the lower the potential for financial distress and thus the higher the potential for debt. On this basis, companies experiencing unrelated diversification would be expected to have higher debt levels than those experiencing no expansion or expansion through integration.

However, the expansion strategy adopted is also thought to influence debt levels through the need to co-ordinate and process information. It is suggested that integrating the activities of suppliers/customers, or related divisions, requires more co-ordination and information processing, which in turn requires more financing. Unrelated diversification requires less co-ordination of divisions and thus less financing (Belkaoui, 1999). On this basis, companies experiencing unrelated diversification would be expected to have lower debt levels than those experiencing expansion through integration.

Although there is some previous empirical evidence to suggest that the highest levels of debt are associated with the highest levels of diversification (Barton and

Gordon, 1988; Lowe, Naughton and Taylor, 1994), expectations on the basis of the above theoretical arguments are somewhat conflicting.

Respondents were asked if their companies had previously experienced, were currently experiencing or were expected to experience a program of business expansion. Approximately 13% of responding companies had no expectation or experience of expansion. The vast majority (80%) indicated an expansion strategy based on related diversification. Only 6% indicated a strategy of integration and 1% of unrelated diversification.

As the vast majority of respondents adopted the same expansion strategy, analysis on the basis of individual strategy was precluded. However, a comparison was attempted between respondents experiencing no expansion or expansion through integration, and those experiencing diversification. A comparison of gearing ratios is included in Appendix 9.

On average, respondents adopting a no expansion/integration strategy appear to have higher total and long-term gearing ratios compared to respondents adopting a diversification strategy (Panel A and Panel B). The difference in mean long-term gearing ratios was found to be statistically significant at the 10% confidence level. The difference between mean total gearing ratios was also found to be statistically significant, at the 5% confidence level, when the outlying respondent company was removed from the sample.

In summary, high levels of gearing appear to be associated with the adoption of a low cost competitive strategy and a no expansion/integration strategy. Low levels of gearing appear to be associated with the adoption of a unique product competitive strategy and a diversification strategy. The level of gearing does not appear to be associated according to whether a company is managed centrally or divisionally.

5.2.9 Personal incentives

Financing decisions made by company management affect profitability and share price. A personal stake by managers could affect the decisions they take. Respondents were, therefore, asked if their company operated management incentive schemes. The vast majority of companies (96%) do so, with share option schemes being the most popular, in operation in 90% of responding companies. Bonus schemes linked to profitability were also popular being operated by 85%. The intention was to make a comparison between those companies operating management incentive schemes and those not, in order to establish if there is a link between financing decisions and management's personal stake. As the majority of companies in the responding sample operate such schemes, further analysis on the basis of questionnaire responses was not possible.

5.2.10 Capital structure determinants in UK listed companies

Respondents were asked the extent of their agreement with general statements based on various capital structure theories, in the context of UK listed companies. Their views, in descending order of agreement, are shown in Table 5.18.

In making debt and equity decisions, 88% of respondents acknowledged that a company considers the market response to new issues of debt and equity (mean=4.20, row 1). Approximately, 61% indicated that they thought the use of debt would decrease relative to equity if bond interest were no longer tax deductible (mean=3.79, row 2), and 64% confirmed that companies would issue debt when equity was undervalued by the market (mean=3.70, row 3).

Approximately 63% of respondents indicated that a company would increase its debt financing if unsecured debt could be issued for the same after-issue, after-tax cost of secured debt (mean=3.66, row 4). In addition, 48% of respondents indicated that the debt/equity ratios would be lower for companies heavily reliant on research and development, and consequently with fewer assets to provide security (mean=3.33, row 5).

Table 5.18: General statements regarding capital structure determinants

Row	Agreement with the following statements:	Response category[1] Percentage of respondents 1	2	3	4	5	DK	Mean[2]	Standard Deviation
1	Market response considered in new issues of debt and equity	1	1	8	54	34	2	4.20***	0.73
2	Use of debt decrease relative to equity if bond interest no longer tax deductible	2	8	20	38	23	10	3.79***	0.98
3	Debt issued when equity is undervalued	3	9	22	46	18	3	3.70***	0.97
4	Increase in debt financing if long term unsecured debt could be issued for the same after-issue, after-tax cost of secured debt	2	11	18	51	12	6	3.66***	0.91
5	Lower debt to equity ratios for companies dependent on research and development	7	15	18	38	10	11	3.33***	1.13
6	Private placements offer information exchange without publicising it in full	3	15	31	36	6	9	3.30***	0.94
7	Issuing long-term debt sends favourable signals concerning future long-term prospects	4	18	38	33	1	6	3.10	0.86
8	Restrictive covenants might be suggested to convince lender to grant loan	9	21	29	31	4	5	2.99	1.05
9	Shares issued when prices are high, even though no present need to build up long-term fund cushion	8	29	34	22	5	3	2.89	1.02
10	Issuing debt is delayed because of transaction costs & fees, retiring debt is delayed because of recapitalisation costs & fees	5	22	42	19	2	10	2.89	0.87
11	Decision to issue debt/equity is affected by existence of tax loss carry forwards	6	27	35	20	3	7	2.86**	0.96
12	Finance Directors would find comparable positions if bankruptcy occurrs	15	32	26	18	3	6	2.58***	1.06
13	Debt issued when recent profits are not sufficient to fund activities	16	34	26	19	2	3	2.56***	1.04
14	Share price usually declines when debt is issued	13	40	25	8	3	10	2.40***	0.95
15	Present value of interest tax shields is balanced with present value of possible bankruptcy costs	13	34	24	3	1	25	2.26***	0.83
16	Shares issued to dilute holdings of certain shareholders	29	37	19	10	2	3	2.18***	1.05
17	Issuing shares sends unfavourable signals concerning future long-term prospects	25	50	17	3	3	2	2.07***	0.90

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

[2]*** significant at 1%, ** significant at 5% (two -tailed test of whether mean is significantly different from neutral (ie. 3))

Although, on average, private placements were thought to offer a satisfactory exchange of information without publicising it in full (mean=3.30, row 6), the need for information was not acknowledged. The suggestion that issuing shares sends unfavourable signals concerning future long-term prospects was strongly refuted by respondents (mean=2.07, row 17).

Respondents, on average, refuted six other statements. In particular, the statement that shares are issued to dilute the holdings of certain shareholders (mean=2.18, row 16), and balancing the present value of interest tax shields with possible bankruptcy costs (mean=2.26, row 15) were strongly refuted. However, respondents acknowledged the adverse consequences of bankruptcy, from a personal perspective. On average, they believe that finance directors would not find a comparable position of employment in the event of bankruptcy (mean=2.58, row 12).

On average, a negative response was also received to share price declining when debt is issued (mean=2.4, row 14), and to debt being issued when recent profits are insufficient to fund activities (mean=2.56, row 13). Nor did respondents agree that capital structure decisions are affected by tax loss carry forwards (mean=2.86, row 11).

The responses to a further four statements were, on average, not statistically significantly different from neutral (i.e. 3). No clear consensus was received as to whether issuing debt sends favourable signals concerning future prospects (mean=3.10, row 7), or if transaction costs delay its issue or repayment (mean=2.89, row 10). There was also no clear opinion as to whether restrictive covenants might be suggested in order to convince lenders to grant loans (mean=2.99, row 8). On average, the issue of shares when prices are high, despite no present need to build up a long term fund cushion, also received a neutral response (mean=2.89, row 9).

5.3: The determinants of capital structure: Survey evidence in relation to theory

5.3.1 Static-trade off theory of capital structure

The basis of the static trade-off theory arises from the proposition that firm value can be increased with the use of debt because of interest payments being tax deductible. At the extreme, therefore, firms should be all debt financed (Modigliani and Miller, 1958). However, the commitment to make interest payments exposes companies to the risk of financial distress or bankruptcy should their business performance or the general economy change. Therefore, the optimal amount of debt for a firm should be determined by balancing the present value of the interest tax shield with the present value of the costs of financial distress (Brealey and Myers, 1996).

When asked about the relative importance of factors in choosing the appropriate amount of total debt, the tax advantage of interest payments was ranked seventh by respondents (mean=3.34, row 7, Table 5.13). Although the average response to the potential costs of bankruptcy/financial distress being important ranked only ninth (mean=2.93, row 9, Table 5.13), the increased financial risk of issuing debt is likely to be a concern when ensuring long term survivability was considered the most important factor in choosing the appropriate amount of debt (mean=4.41, row 1, Table 5.13). It was closely followed by projected cash flow/earnings (mean=4.21, row 2). The volatility of earnings and cash flow was ranked third in importance (mean=3.72, row 3).

According to Miller (1977), there is no benefit to increasing firm value through the interest tax shield of debt at the expense of adversely effecting investors through their personal tax position. Therefore, the optimal benefit obtained from the interest tax shield is said to arise at the point when the personal income tax paid by marginal investors is offset by the corporate tax saving. There is no evidence from respondents to suggest that the optimal benefit from the interest tax shield is considered in this way. In fact, the importance of the personal tax cost facing investors in choosing the appropriate amount of debt was ranked bottom by respondents (mean=2.02, row 13, Table 5.13).

There is, however, further evidence to suggest the importance placed on interest tax shields as 62% of respondents indicated that, in general, they thought the use of debt would decrease relative to equity if bond interest were no longer tax deductible (mean=3.79, row 2, Table 5.18). The benefit of interest tax shields would also be reduced if companies were able to shield their income from tax in alternative ways (DeAngelo and Masulis, 1980), or if their current tax paying position were reduced by previous tax losses. The level of other non-taxable deductions being important in choosing the appropriate amount of total debt was ranked tenth (mean=2.93, row 10, Table 5.13). In addition, the average response to the general statement that the decision to issue debt or equity is affected by the existence of tax loss carry forwards was negative (mean=2.86, row11, Table 5.18).

Despite evidence to suggest that the interest tax shield and the ability to fulfil debt obligations are influential factors in the debt decision, responses do not provide any direct evidence of a trade-off. Only 4% agreed that corporate capital structure is determined by balancing the present value of interest tax shields with the present value of possible bankruptcy costs (mean=2.26, row15, Table 5.18). However, with 25% responding 'don't-know', and 24% adopting a neutral stance, the trade-off theory of capital structure was not entirely refuted.

Stakeholder theory: Enhancing / mitigating financial distress

In the stakeholder theory of capital structure, Titman and Wessels (1988) suggest that the behaviour of various firm stakeholders is affected by financial distress potential, and certain firm specific characteristics accentuate financial distress. When asked about the relative importance of factors in choosing the appropriate amount of debt, ensuring customers/suppliers aren't worried about company survival was ranked forth in importance (mean = 3.62, row 4, Table 5.13). In relation to circumstances enhancing financial distress, on average firms responded positively to the general statement that firms with a high dependence on research and development would exhibit low debt to equity ratios (mean=3.33, row 5, Table 5.18). If those making capital structure decisions are concerned with retaining their current position of employment, they may be concerned with minimising the potential of financial distress and consequently more risk adverse. On average, respondents were found to disagree with the general statement that finance directors

would find comparable employment positions elsewhere if bankruptcy occurs (mean = 2.58, row 12, Table 5.18).

Extended static trade-off theory

The traditional trade-off theory between the benefits from interest tax shields and the costs of financial distress can be extended to include additional agency costs and benefits of issuing debt. It is suggested that the use of debt has the benefit of mitigating conflicts of interest between shareholders and company managers (Jensen and Meckling, 1976). Debt commits the firm to payout cash in interest payments. Therefore, the amount of 'free cash' available to managers is reduced, providing less opportunity to transfer firm resources to their personal benefit.

However, on average, respondents disagreed that committing cash flow to interest payments as a disciplinary control on management was an important factor in choosing the appropriate amount of total debt (mean=2.46, row 12, Table 5.13). Graham and Harvey (1999) obtained a similar response in their US survey. However, this is a sensitive issue which finance directors could be reluctant to admit to.

An additional cost of debt arises as a result of conflicts of interest between debt holders and equity holders. Debt holders anticipate sub-optimal investment behaviour at their expense and introduce restrictions on lending. For example, debt contracts might include interest coverage requirements and prohibitions against investing in new unrelated lines of business. Debt covenants were ranked fifth out of nine in importance by respondents when considering who/what influences target capital structure ratios (Table 5.10). Respondents agreed that restrictive covenants were important in choosing the amount of total debt (mean=3.58, row 5, Table 5.13). However, the mean response to suggesting restrictive covenants in order to convince lenders to grant loans was not statistically significantly different from neutral (mean=2.99, row 8, Table 5.18). This might suggest that companies recognise that the costs of issuing debt with restrictive covenants might outweigh any benefits.

In summary, there is little evidence to suggest respondents adhere to a strict target of capital structure. Approximately half of respondents operate *without* a target amount of debt in relation to equity, and the majority of those that do appear to be flexible. Respondents provided no indication that they undertake an explicit trade-off between the benefit of interest tax shields and the costs of financial distress. However, company survivability and sufficient earnings/cash flows to meet the interest payments of debt are of prime importance. Corporate tax savings and restrictive covenants are also of moderate importance.

5.3.2 Pecking order theory of capital structure

The pecking order is said to arise as a result of asymmetric information (Myers, 1984). Managers are reluctant to issue equity and transfer value from existing to new shareholders when they believe share price is too low. Therefore, equity issue would only be preferred over debt at times when shares were believed to be fairly or overpriced. However, investors are aware of this and could associate a decision to issue equity with a signal of bad news. Various researchers (Asquith and Mullins, 1983; Masulis and Korwar, 1986; Mikkelson and Partch, 1986) have reported a decline in share price in reaction to the announcement of new equity issues.

Consideration of the market reaction to new issues of debt and equity was considered by respondents to be the most important (of seventeen) capital structure determinant (mean=4.20, row 1, Table 5.18). Although, on average, respondents disagreed that debt would be issued when recent profits were insufficient to fund activities (mean=2.56, row 13, Table 5.18), 64% agreed it would be issued when equity was undervalued (mean=3.7, row3, Table 5.18). Approximately 75% of respondents refuted that issuing shares sends unfavourable signals concerning future long-term prospects (row 17, Table 5.18). The average response to issuing shares when prices are high even though there was no present need, in order to build up a long-term fund cushion, was not statistically significantly different from neutral (mean=2.89, row9, Table 5.18). These findings could suggest that should additional finance be required, companies might not be deterred from issuing equity when share prices are high, However, share issue purely in response to high prices might be unlikely. Previous UK and US evidence (Marsh, 1982; Taggart, 1977) also

suggests that firms are more likely to issue equity over debt when share prices have risen.

Although the average response to debt issues sending favourable signals to the market was not statistically significantly different from neutral (mean=3.10, row 7, Table 5.18), 53% of respondents refuted the idea that share price usually declines when debt is issued (mean=2.4, row14, Table 5.18). These findings provide some support for previous research which has reported a virtually neutral reaction to straight debt issues (Eckbo, 1986), and a positive reaction to bank debt roll-over agreements (Lummer & McConnell, 1989).

In summary, survey responses provide some evidence in support of the pecking order theory of capital structure. Approximately 78% of respondents favoured deviating from existing capital structure compared to forgoing growth opportunities and cutting dividends. These findings suggest that investment opportunities and dividend payout appear to dictate the amount of external financing. In addition, 60% admitted to following a hierarchy of financial sources favouring internal reserves, straight debt then ordinary shares. Respondents placed considerable importance on the market reaction to new issues of debt and equity. However, despite respondents indicating that debt would be issued when equity was undervalued, there is less evidence to suggest shares would only be issued as a final resort, when respondents failed to acknowledge that issuing shares conveys an unfavourable market signal.

5.3.3 Corporate control considerations

Capital structure has corporate control considerations, when equity carries voting rights and debt does not. Avoiding the need to issue equity to prevent the dilution of existing shareholder claims or voting proportions was ranked seventh (mean = 3.25, row 8, Table 5.13) in importance when choosing the appropriate amount of debt. Preventing take-overs was considered less important (mean = 2.54, row 11, Table 5.13). On average, respondents were found to disagree with the general statement that shares are issued to dilute the holdings of certain shareholders (mean = 2.18, row 16, Table 5.18).

On balance, findings do not appear to either support or refute the use of debt to prevent take-over. However, debt may be favoured in order to maintain existing shareholder's claims and voting rights.

5.4: The determinants of capital structure: Further analysis

In chapter 3, it was documented that certain firm characteristics/environments promote high/low levels of debt (Table 3.1). However, it is not clear if these characteristics/environments are also associated with the process of determining debt levels. It is not clear whether firms appear to follow the static trade-off theory or the pecking order theory in accordance with the characteristics they exhibit or the environments in which they operate. Thus, the responses to certain questions relating to the static trade-off and the pecking order theories, and factors influencing the choice of debt were further analysed by firm characteristics/environments.

Measures of size and industry classifications were used to encapsulate general firm characteristics. The competitive, management and expansion/growth strategies adopted were used to characterise operating environments. Responses were also analysed according to the degree of gearing currently adopted. The scope of this further analysis is summarised in Table 5.19.

5.4.1 Further analysis by firm size

It is suggested that large firms are more diversified and, therefore, less likely to suffer financial distress. Small firms are restricted from using long-term debt and equity because of large proportions of fixed issuing costs, and tend to finance by short-term bank loans (Marsh, 1982). Also, small firms may be subject to increased agency costs because they are more flexible and better able to increase the risk of investment projects. Lenders will thus be less willing to provide debt finance to small firms (Grinblatt and Titman, 1998).

Large firms might, therefore, be expected to place less importance on the financial distress and agency costs of issuing debt, compared to small firms. The tax benefits to issuing debt may be more significant to large firms, if they are reduced to a lessor extent by the cost of financial distress. Also, small firms may only experience

Table 5.19: Scope of further analysis: The determinants of capital structure

Responses to questions analysed:		Evidence in relation to:	Firm characteristics			Strategic environment		
			Size	Industry	Gearing	Competition	Management	Expansion/growth
1	Maintenance of target capital structure	Static trade-off theory	Total assets and sales Small versus large firms	Datastream Level 3 industry classifications	Total gearing: total loan capital (Datastream 321) plus borrowings repayable in less than one year (Datastream 309) to market value of equity (Datastream HMV) Long-term gearing: total loan capital to market value of equity High versus low gearing	Firms classified as low cost, product differentiation or unique product	Firms classified as centrally or divisionally	Firms classified as no expansion/ integration or diversification
6	Following of a hierarchy of sources	Pecking order theory						
7	Importance of factors in choosing the appropriate amount of debt	Cost of debt Tax benefits Financial distress costs Agency costs and benefits Stakeholder theory Control considerations						
13	Maintenance of spare borrowing capacity	Static trade-off / Pecking order theories						

corporation tax at the small company rate of 20%, and avoid the main rate of 30%[6]. Ownership may be more concentrated in a small firm, especially if it is restricted from obtaining additional equity through issue costs. Therefore, the importance of control considerations in choosing an appropriate level of debt may be less significant to small firms. If issue costs restrict the use of both long-term debt and equity by small firms, it may be necessary to finance their activities in anyway they can, rather than maintain a target level of debt to equity, or following a hierarchy of sources. Moreover, small firms may not have the ability to maintain spare borrowing capacity if lenders are reluctant to lend in the first instance.

Measures of both total assets (Datastream item 392) and sales (Datastream item 104) were used to proxy firm size. The sample of respondents was ordered first by assets, and then divided into three equal groups: small, medium sized and large firms. The medium sized firms were disregarded and comparisons were made between large and small firms. The process was repeated using sales. Summary statistics for the total sample and the sub-samples of large and small firms are shown in Panel A of Appendix 10. Large firms have mean total assets of approximately £2532 million and sales of £2423 million, compared to mean total assets of £11 million and sales of £9 million for small firms.

The responses from large and small firms in relation to adopting a target capital structure, following a hierarchy of financial sources and maintaining spare borrowing capacity are shown in Panel B, Panel C and Panel D respectively. Responses appear fairly consistent irrespective of the measure of firm size used. There appears to be a definite difference in the adoption of a target capital structure between small and large firms. Small firms appear more likely not to adopt a target, whereas large firms appear more likely to adopt a flexible or reasonably strict target (Panel B). Although firm size does not appear to influence whether a hierarchy of financial sources is followed (Panel C), large firms appear more likely to maintain spare borrowing capacity (Panel D) compared to small firms.

[6] The rate of 20% applies to companies with taxable profits between £50001 - £300000 for the financial year 2001 to 2002. Although profit levels determine the application of the small company rate, there is generally an association between absolute assets in place, sales turnover achieved and profitability.

A comparison of the relative importance of factors, to large and small firms, in choosing the appropriate amount of debt is shown in Panel E of Appendix 10. For the majority of factors, there was no significant difference found between the importance attached. Against expectations, large firms were not found to attach less importance to financial distress costs (row 9) or agency costs (row 6). However differences in the importance attached to both tax benefits and control considerations are apparent. The tax advantage of interest deductions appears to be much more important to large firms compared to small firms (row 3). Small firms also appear much less concerned with preventing becoming a take-over target (row 11) and avoiding the issue of equity to dilute existing shareholder's claims (row 5).

5.4.2 Further analysis by industry classification

The industry in which a firm operates has been found to influence capital structure (see section 3.3.1). This is not surprising when the characteristics identified as promoting high/low levels of debt are typical of certain industries. In section 5.1 of this chapter, the FT industry classification was obtained for each respondent when establishing the sample was representative of the population. Respondents were classified into 1 of 33 industries. For the purpose of further analysis, the FT classifications were aggregated into Datastream's level 3 classifications, as shown below.

Level 3 classification	**FT classification**
Basic Industries	Construction & Building Materials
	Chemicals
	Steel & Other Metals
	Forestry & Paper
Cyclical Consumer Goods	Household Goods & Textiles
Cyclical Consumer Goods	Automobiles
Cyclical Services	Support Services
	Media & photography
	General Retailers
	Leisure, Entertainment & Hotels
	Distributors

	Restaurants, Pubs & Breweries
	Transport
Information Technology	Software & Computer Services
	Information Technology Hardware
General Industries	Engineering & Machinery
	Electronic and Electrical Equipment
	Aerospace and Defence
	Diversified Industries
Non-Cyclical Consumer Goods	Food Producers & Processors
	Pharmaceuticals
	Health
	Packaging
	Beverages
	Personal Care & Household Products
	Tobacco
Non-Cyclical Services	Food & Drug Retailer
	Telecommunication Services
Resources	Oil & Gas
	Mining
Utilities	Water
	Electricity
	Gas

Industries in which firms are more susceptible to financial distress are characterised by higher operating risk. Firms operating in the cyclical consumer goods or service industries may be more likely to be affected by changes in consumer taste compared to firms operating in non-cyclical consumer goods or service industries. Firms operating in information technology are likely to be susceptible to financial distress through the employment of firm-specific intangible assets. Operating risk is also enhanced for these firms by continuous change in technology, rendering recently developed hardware and software obsolete. Firms in the information technology industry may also experience high agency costs through restrictions imposed by lenders, in response to the extensive growth/investment opportunities in this area.

Firms in industries characterised by a higher financial distress potential may be more concerned with their levels of debt in relation to equity, and thus more likely to maintain target ratios. Firms in industries characterised by fewer growth/investment opportunities may have the option to maintain spare borrowing capacity, whereas agency costs might prohibit the option in high growth/investment industries. At the same time, firms in industries with few investment opportunities could be viewed as having little need to maintain spare borrowing capacity, whereas firms with investment opportunities may maintain spare borrowing capacity in order to fund the opportunities as they arise.

The responses, by industry classification, in relation to adopting a target capital structure, following a hierarchy of financial sources and maintaining spare borrowing capacity are shown in Panel B, Panel C and Panel D of Appendix 11 respectively. The number of responses for non-cyclical services, resources and utilities were relatively small (Panel A), and it was therefore necessary to group them together in order to perform the chi-square test.

Industry classification does not appear to influence whether a firm adopts a target capital structure (Panel A) or follow a hierarchy of financial sources (Panel B). However, it does appear to influence the maintenance of spare borrowing capacity. Firms operating in non-cyclical consumer goods appear less likely to maintain spare borrowing capacity. A large proportion of these firms are involved in food production, pharmaceuticals and health (Table 5.3). Firms operating in cyclical consumer goods, general industries and information technology appear most likely to maintain spare borrowing capacity. As the investment opportunities facing these three industries differ, a link on the basis of investment opportunities and maintaining spare borrowing capacity is not apparent. Therefore, firms operating in non-cyclical goods must fail to maintain spare borrowing capacity for some other reason out with their investment opportunities.

A comparison of the relative importance of factors, to firms in different industries, in choosing the appropriate amount of debt is shown in Panel E of Appendix 11. For the majority of factors, there was no significant difference found between the

importance attached. Against expectations, there didn't appear to be any significant difference in the importance placed on financial distress (row 9) and agency costs (row 6) across industries. However, industry classification was found to influence the importance attached to both projected cash flow/earnings and ensuring that customers/suppliers are not worried about company survival. Projected cash flow/earnings appears less important to firms in the information technology and cyclical consumer goods industries and most important to utility firms. Ensuring customers/suppliers aren't worried about company survival appears most important to information technology firms. However this is hardly surprising when the sale of products is dependent on the provision of after sales customer support, and the products themselves are at risk of technological obsolescence. Firms in basic industries appear least concerned with customers/suppliers worries about company survival. However, in this case the quality of products is easily observed and by nature, an after-sale servicing is not required.

5.4.3 Further analysis by level of gearing

The interest tax shield benefit to debt and the financial distress potential might be expected to be of more significance in firms with high levels of gearing. Firms paying substantial interest payments are likely to be more concerned with the cash/income flows required to meet such payments. Restrictive covenants are more likely to be present in highly geared firms, although restrictive covenants may cause growth firms to exhibit low levels of gearing.

Firms characterised by a high financial distress potential as a result of high levels of gearing might be more concerned with their levels of debt in relation to equity, and thus more likely to maintain target ratios. Firms with high levels of gearing may be viewed as having consumed the majority of their debt capacity, thus reducing their ability to maintain spare borrowing capacity. However, if firms with low levels of gearing also have a low capacity for debt, they might be in the same situation. Thus the relationship between the level of gearing and maintaining spare borrowing capacity is not clear. Firms with low levels of gearing may be more willing to issue equity, and thus less likely to follow a hierarchy of financial sources in which debt takes preference.

Measures of both total gearing and long-term gearing were used. Total gearing was represented by the ratio of total loan capital (Datastream item 321) plus borrowings repayable in less than one year (Datastream item 309) to the market value of equity (Datastream item HMV). In the long-term gearing measure, borrowings repayable in less than one year were excluded. The sample of respondents was ordered first by total gearing, and then divided into three equal groups: low, medium and high. Firms with medium levels of total gearing were disregarded and comparisons were made between high and low geared firms. The process was repeated using long-term gearing. Summary statistics for the total sample, and the sub-sample of high and low geared firms are shown in Panel A of Appendix 12. High geared firms have a mean total gearing ratio of 1.065 and long-term gearing ratio of 0.601, compared to mean total gearing ratio of 0.026 and mean long-term gearing ratio of 0.005 for low geared firms. There is a large variation in total gearing for the sample of high-geared firms as a result of one firm having extremely large short-term borrowings. However, in this instance, the measure of total gearing was only used to characterise a firm with high or low levels of gearing, and thus the removal of this outlier from the further analysis was not necessary.

The responses from high and low geared firms in relation to adopting a target capital structure, following a hierarchy of sources and maintaining spare borrowing capacity are shown in Panel B, Panel C and Panel D respectively. Responses appear fairly consistent irrespective of the measure of gearing used. Firms with low levels of gearing appear more likely not to adopt a target capital structure, whereas firms with high levels of gearing appear more likely to adopt a flexible target. Firms with high levels of gearing appear more likely to maintain spare borrowing capacity and follow a hierarchy of sources, although the latter was only statistically significant when the measure of total gearing was used.

A comparison of the relative importance of factors, to high and low geared firms, in choosing the appropriate amount of debt is shown in Panel E of Appendix 12. For the majority of factors, there was no significant difference found between the importance attached. Against expectations, high-geared firms were not found to attach more importance on the tax advantage of interest deductions, although they did appear to attach more importance on the level of other non-taxable deductions,

in comparison to low-geared firms. The potential costs of bankruptcy/financial distress do not appear more important to high-geared firms, however they do appear to attach more importance to projected cash flow/earnings. In line with expectations, firms with high levels of gearing appear to attach more importance to restrictive covenants.

5.4.4 Further analysis by strategy

In section 5.2.8 of this chapter, the relationships between gearing and competitive, management, and growth/expansion strategy were investigated. In the present section, an analysis of the responses to questions according to the different strategies adopted is presented.

Competitive strategy

On average, firms adopting unique product strategies were found to exhibit the lowest gearing ratios, whilst firms with cost leadership strategies were found to exhibit the highest. Findings, thus, appeared to confirm the suggestion that firms using intangible, inflexible assets in pursuit of unique product strategies have an increased potential for financial distress and a decrease in their ability to borrow due to a lack in collateral. Firms adopting unique product strategies, in light of their increased financial distress potential, may be more concerned with their levels of debt in relation to equity, and thus more likely to maintain target ratios. However, firms adopting cost leadership strategies and subsequently high levels of gearing, may also be concerned with their significant levels of debt in relation to equity and consequently also focus on target ratios. Firms adopting a unique product strategy may have less ability to maintain spare borrowing capacity, if their capacity for debt is limited due to a lack of collateral.

The responses, according to competitive strategy, in relation to maintaining a target capital structure, following a hierarchy of sources and maintaining spare borrowing capacity are shown in Panel B, Panel C and Panel D of Appendix 13 respectively. There appears to be a difference in the maintenance of a target capital structure according to the competitive strategy adopted. Firms competing in terms of cost leadership or product uniqueness both appear more likely *not* to adopt a target

capital structure. However, when they do, cost leadership firms appear more likely to adopt a flexible target in comparison to a reasonably strict target by firms adopting product uniqueness. Firms adopting a product differentiation strategy appear more likely to adopt some kind of target rather than no target. Firms adopting a unique product strategy appear much less likely to maintain spare borrowing capacity, perhaps purporting suggestions that they are less able to do so.

A comparison of the relative importance of factors, to firms adopting alternative competitive strategies, in choosing the appropriate amount of debt is shown in Panel E of Appendix 13. Significant differences were found to exist in the importance attached to three factors. Firstly, firms competing in terms of cost leadership and product differentiation appear more concerned with the level of interest rates in comparison to firms competing in terms of unique products (row 6). This is hardly surprising when firms adopting the former strategies are dependent on the cost of their products in relation to the cost of identical or differentiated products offered by competitors. Unique products are less price, and thus cost sensitive. Secondly, the tax advantage of interest deductions is more important to firms competing in terms of cost leadership (row 10). Thirdly, firms competing in terms of cost leadership appear to attach more importance to the use of debt to prevent becoming a take-over target (row 9). However, this is not surprising when they produce exactly the same products as their competitors and the only difference being offered is in terms of price. Taking over a direct competitor provides the opportunity to increase market share without embarking on a price war. Firms competing in terms of product differentiation appear to attach the least importance to the use of debt to prevent take-overs.

Management strategy

The difference between the gearing ratios of firms managed centrally and firms managed divisionally were not found to be statistically significant. It was expected that centrally managed firms would have lower debt ratios because the agency costs arising from conflict of interests between shareholders and managers would be higher, thus increasing the cost of debt. Divisionalisation is said to reduce opportunism, agency costs and the subsequent cost of debt. Divisionalisation may also require a high level of co-ordination of information, and additional debt may be

required to finance it. The increased use of debt by divisionalised firms is said to further reduce opportunism by committing cash flow to interest payments. Divisionalised firms might, therefore, be expected to attach more importance to committing cash flow to interest payments as a disciplinary control on management when choosing the appropriate amount of debt.

The responses, according to management strategy, in relation to maintaining a target capital structure, following a hierarchy of sources and maintaining spare borrowing capacity are shown in Panel B, Panel C and Panel D of Appendix 14 respectively. The management strategy adopted does not appear to influence the maintenance of a target capital structure or whether a firm follows a hierarchy of sources. However, management strategy does appear to influence the maintenance of spare borrowing capacity. Divisionalised firms appear more likely to maintain spare borrowing capacity than centrally managed firms do. Firms were classed as divisionalised if they were managed in terms of products or geographical regions. Divisionalised firms are thus likely to spread operating risk across multiple product/geographical markets, thus lowering their potential for financial distress. Consequently, through a lower financial distress potential, divisionalised firms may obtain a greater capacity for debt and thus are better able to maintain spare capacity.

A comparison of the relative importance of factors, to centralised and divisionalised firms, in choosing the appropriate amount of debt is shown in Panel E of Appendix 14. The differences in the importance attached to the majority of factors were not found to be statistically significant. Against expectations, divisionalised firms were not found to attach more importance to committing cash flow to interest payments as a disciplinary control on management. However, divisionalised firms were found to attach more importance to the tax advantage of interest deductions in comparison to centralised firms.

Growth/expansion strategy

On average, firms adopting a no expansion/integration strategy were found to exhibit higher gearing ratios in comparison to firms adopting a diversification strategy. Findings appear to contradict the suggestion that diversification lowers financial distress potential and increases the capacity for debt. However, an

integration strategy might require more co-ordination and information processing than unrelated diversification, which in turn requires more financing. In addition, firms experiencing no growth/expansion are less likely to experience the agency costs of debt arising from conflicts of interest between lenders and management over risky investments.

The responses to questions analysed according to the growth/expansion strategy adopted are shown in Appendix 15. Analysis on the basis of individual expansion strategy was precluded as the vast majority of firms adopted a related diversification strategy. Therefore, the comparison was made on the basis of no expansion/ integration versus direct and indirect diversification. The differences between the two sets of responses were not found to be statistically significant. However, it is not clear if this is the product of aggregating the four alternative growth/expansion strategies into two, or because growth/expansion strategy bears no influence.

5.5: The determinants of capital structure: results summary

Evidence in relation to the determinants of capital structure was obtained in two ways. Firstly, by analysing the questionnaire responses for the entire sample of respondents, and secondly, by using additional data to analyse responses on the basis of certain firm characteristics.

The evidence from the responses for the entire sample of respondents in relation to capital structure theory is summarised in Table 5.20. In order to establish the relative importance of theoretical issues, responses were classified based on the degree of evidence provided. The degree of evidence was established as the percentage of respondents who indicated that they took a particular action, or who indicated that an issue was fairly to very important to them, or that they were in agreement/strong agreement with a particular suggestion. If the percentage of respondents ranged between 0 to 20%, the evidence was taken to be strongly against a particular issue. A percentage between 21 to 40% was taken to be against, 41-60% was taken to be neutral, 61-80% was taken to be in favour, and 81-100% strongly in favour of a particular issue. The theoretical issues are grouped according to the static trade-off theory (including the stakeholder theory), extended trade-off theory,

Table 5.20: Survey evidence in relation to capital structure theory

Qu	Theory	Degree of Evidence[1]				
		Strongly Against	Against	Neutral	In Favour	Strongly In Favour
	Static Trade-Off					
	Existence of:					
A1(b)	Flexible target capital structure		✔			
A1(c)	Strict target capital structure	✔				
A4	Static targets (ie. not regularly reviewed)	✔				
A5	Reluctance to deviate from existing capital structure	✔				
	Interest tax shield					
	Specific importance of[2]:					
A7(a)	Tax advantage of interest deductions				✔	
A7(b)	Personal tax cost facing investors		✔			
A7(c)	*Level of other non-taxable deductions*				✔	
	General importance of[3]:					
B1(a)	Tax advantage of interest deductions				✔	
B1(b)	Level of other non-taxable deductions		✔			
	Financial distress					
	Specific importance of[2]:					
A7(d)	Potential costs of bankruptcy/financial distress			✔		
A7(e)	Ensuring long-term survivability					✔
A7(m)	Volatility of cash flow/earnings					✔
A7(i)	Projected cash flow/earnings					✔
	Stakeholder theory enhancing/mitigating financial distress					
	Specific importance of[2]:					
A7(f)	Ensuring customers/suppliers aren't worried about company survival					✔
	General importance of[3]:					
B1(e)	Circumstance enhancing financial distress (e.g. high dependence on research and development)			✔		
B1(d)	Ease with which FD would find a comparable position of employment if bankruptcy occurred			✔		
B1(c)	Existence of trade-off between PV of interest tax shield and PV of possible financial distress	✔				

[1]Degree of evidence based on percentage of respondents who indicated they took particular action, they indicated something was fairly to very important (3, 4 or 5), or they agreed or strongly agreed with something (4 or 5)
0-20 % = strongly against, 21-40% = against, 41-60% = neutral, 61-80% = in favour, 81-100% = strongly in favour

[2]Item of specific importance to responding companies.

[3]Item of general important to UK quoted companies.

Table 5.20 continued

Qu	Theory	Degree of Evidence[1]				
		Strongly Against	Against	Neutral	In Favour	Strongly In Favour
	Extended Static Trade-Off: Agency theory					
	Agency costs					
A7(g)	Specific importanceof[2]: Restrictive covenants imposed by debt holders					✔
A3	Specific influence of debt covenants on target capital structures			✔		
	General importance of[3]:					
B1(h)	Companies would increase debt if it could issue unsecured long term debt at same after issue, after tax cost of secured debt.					✔
	Agency benefits					
	Specific importanceof[2]:					
A7(j)	Ensuring a large proportion of cash flow is committed to interest payments as a disciplinary contol on management			✔		
	General importance of[3]:					
B1(f)	Suggesting restrictive covenants to convince lenders to grant loans				✔	
	Corporate control considerations					
	Specific importanceof[2]:					
A7(h)	Avoiding the need to issue equity to prevent the dilution of existing shareholders claims or voting proportions				✔	
A7(k)	Preventing against becoming a take-over target			✔		
	General importance of[3]:					
B1(n)	Issuing shares to dilute the holdings of certain shareholders		✔			

[1]Degree of evidence based on percentage of respondents who indicated they took particular action, they indicated something was fairly to very important (3, 4 or 5), or they agreed or strongly agreed with something (4 or 5)
0-20 % = strongly against, 21-40% = against, 41-60% = neutral, 61-80% = in favour, 81-100% = strongly in favour

[2]Item of specific importance to responding companies.

[3]Item of general important to UK quoted companies.

Table 5.20 continued

Qu	Theory	Degree of Evidence[1]				
		Strongly Against	Against	Neutral	In Favour	Strongly In Favour
	Pecking Order vs Static Trade-Off					
A13	Existence of spare debt capacity			✔		
	Pecking Order Theory					
A5	Flexibility in deviating from existing capital structure					✔
A6	Following of a hierarchy of financial sources			✔		
A6	Internal reserves is most favoured source[2]			✔		
A6	Debt is favoured more than equity[3]			✔		
	Specific importance of[4]:					
A7(h)	Issuing debt to avoid need to issue equity				✔	
A7(m)	Volatility of company's earnings/cashflows in choosing appropriate amount of total debt					✔
	General importance of[5]:					
B1(o)	Issuing debt when recent profits insufficient to fund activities			✔		
	Asymmetrical Information					
	General importance of[5]:					
B1(i)	Consideration of market response to new issues of debt and equity					✔
B1(g)	Consideration of private placements to offer satisfactory exchange of information				✔	
B1(j)	Decision to issue debt sends favourable signals				✔	
B1(k)	Decision to issue shares sends unfavourable signals		✔			
B1(l)	Belief that share price declines when debt is issued		✔			
B1(m)	Issuing debt when equity is undervalued by the market					✔
B1(p)	Issuing shares when prices high even though no present need, in order to build up fund cushion				✔	
A19	Belief in market *inefficiency*[6]					✔

[1]Degree of evidence based on percentage of respondents who indicated they took particular action, they indicated something was fairly to very important (3, 4 or 5), or they agreed or strongly agreed with something (4 or 5)
0-20 % = strongly against, 21-40% = against, 41-60% = neutral, 61-80% = in favour, 81-100% = strongly in favour

[2]Ranked 1 by respondents

[3]Straight debt ranked higher than ordinary shares

[4]Item of specific importance to responding companies.

[5]Item of general important to UK quoted companies.

[6]Company shares believed to be unfairly priced 25% or more of the time

corporate control considerations and the pecking order theory. Issues relating to capital structure and corporate strategy were not addressed in the questionnaire, respondents were merely asked to classify themselves according to corporate strategies adopted.

The theoretical issues are not necessarily in conflict. The static trade-off and pecking order theory only appear to be mutually exclusive at the outset. Firms either adopt a level of optimum debt finance (static trade-off theory), or they adopt a level of dividend payout and investment which consequently dictates the level of finance. In the static trade-off theory, the various costs and benefits of issuing debt are balanced, in the pecking order, equity issues are avoided by issuing debt for as long as possible. The existence of a target amount of debt in relation to equity is, therefore, more characteristic of the static trade-off theory, although targets might be expected to deviate over time as costs and benefits of issuing debt change. From Table 5.20, it is apparent that the evidence was against the existence of strict target capital structures and of a trade-off between the tax benefit and financial distress cost to debt.

In the pecking order, debt to equity ratios are said to merely reflect the firm's requirement for external finance. Thus firms might be expected to deviate from existing debt to equity ratios in response to changes in investment opportunities over time. In the pecking order, firms follow a hierarchy of sources, from internal reserves, through debt to equity, whereas in the static trade-off theory firms issue debt and equity with the intention of maintaining target proportions of both. It is apparent that the evidence was strongly in favour of firms being flexible in deviating from their existing capital structures. The evidence was neutral in relation to firms following a hierarchy of sources, in which internal reserves is favourable to debt, which in turn is favourable to equity. However, the evidence was strongly in favour of the importance of the volatility of company's earnings/cash flows in choosing an appropriate amount of debt. This might infer that debt requirement is influenced by internally generated funds, although internal reserves may not always be favourable to debt. However, concern for earnings/cash flows may also stem from the ability to meet interest payments.

A policy of maintaining spare debt capacity to meet investment opportunities is thus likely to be characteristic of the pecking order theory. However, high levels of investment could result in a firm's capacity for debt being fully consumed. In the static trade-off theory, firms are assumed to be operating at their optimal level of debt. The evidence obtained in relation to maintaining spare debt capacity was neutral.

In the pecking order, equity issues are avoided in order to prevent the signalling of information to investors, resulting in a decrease in firm value. Unless debt holders restrict a firm's access to additional debt finance, equity is issued only when issuing debt would result in a greater decrease in firm value. To arrive at this decision, balancing the benefits and costs of additional debt appears to be necessarily. Therefore, the benefits and costs to debt, out with the signalling of information, are not necessarily exclusive to the static trade-off theory.

The evidence was in favour of the tax advantage of interest deductions being important in choosing the appropriate amount of debt. The evidence was also in favour of the specific importance of the level of other non-taxable deductions to responding firms. However, the evidence was against the importance of the level of other non-taxable deductions in general. Respondents thus appear to view the level of non-taxable deductions important to them but not important to other UK quoted firms. The evidence was against the importance of the personal tax cost facing investors in choosing the appropriate level of debt. Although, the evidence was neutral in relation to the specific importance placed on the potential costs of bankruptcy/financial distress, evidence was strongly in favour of the importance of ensuring long-term survivability, projected cash flow/earnings and the volatility of such cash flow/earnings. In support of the stakeholder theory, the evidence was strongly in favour of the importance attached to ensuring customers/suppliers aren't worried about company survival.

In relation to agency costs, the evidence was strongly in favour of the importance of restrictive covenants imposed by debt holders in choosing the appropriate levels of debt. In general, the evidence is strongly in favour of firms expanding their use of debt in the absence of restrictive covenants. The evidence in relation to the use of

debt to minimise conflicts of interest between shareholders and managers was neutral. The evidence is in favour of using debt to avoid the need to issue equity to prevent the dilution of existing shareholders claims or voting proportions. However, the evidence was neutral in respect to using debt to prevent take-overs.

In relation to the pecking order theory, the evidence is strongly in favour of the general importance attached to the market response to new issues of debt and equity. The evidence is also strongly in favour of a belief of market inefficiency and strongly in favour of the issue of debt when equity is undervalued by the market place. The evidence further suggests that debt is viewed as sending favourable signals to the market place and does not cause share price to decline. However, contrary to the pecking order theory, the evidence suggests that the issue of equity is not thought to send unfavourable market signals, and would occur if share prices were high.

In summary, financing decisions do not appear to strictly follow either the static trade-off theory or the pecking order theory of capital structure. In reality, there is evidence in relation to both. At the outset, investment opportunities and dividend payout appear more likely to influence the level of debt finance, than an optimum level of debt finance being selected. However, the level of debt is not necessarily the product of progressing through a hierarchy of sources. Although the issue of debt is favourable when equity is undervalued, equity does not appear to be only issued as a last resort. In determining an appropriate level of debt, ensuring long-term survivability, projected cash flow/earnings, the volatility of cash flow/earnings, and restrictive covenants are of paramount importance. Importance is also attached to the interest tax benefits to debt and preventing the dilution of existing shareholders claims and voting proportions.

In relation to capital structure and corporate strategy, high levels of debt appear to be associated with the adoption of a cost leadership competitive strategy and a no expansion / integration growth strategy. Low levels of debt appear to be associated with the adoption of a unique product competitive strategy and diversification growth strategy. Findings thus support theoretical suggestions that firms adopting a cost leadership strategy provide standardised products/services using tangible and

flexible assets and consequently have a lower potential for financial distress. The opposite is true for firms competing on a unique product basis. Findings contradict previous evidence, which suggests that the highest levels of debt are associated with the highest levels of diversification. (Barton and Gordon, 1988; Lowe, Naughton and Taylor, 1994). Diversification spreads operating risk and thus reduces the potential for financial distress. However, findings might be indicative of the increased co-ordination and information processing associated with integration, which in turn requires to be financed. Also, integration could be considered less risky as an element of current experience and knowledge would apply.

The findings, obtained from the further analysis of responses to certain questions on the basis of size, industry, gearing and corporate strategy, are summarised in Table 5.21.

Small firms appear less likely to adopt a target capital structure whereas large firms appear more likely to adopt a flexible/reasonably strict target. Large firms also appear more likely to maintain spare borrowing capacity. Large firms appear to attach more importance to the tax advantage of interest deductions, whereas small firms appear much less concerned with preventing the firm from becoming a take-over target and avoiding the issue of equity to dilute existing shareholders claims. Firms operating in non-cyclical consumer goods appear less likely to maintain spare borrowing capacity, whereas firms in cyclical consumer goods, general industries and information technology appear more likely. Projected cash flow/ earnings appears to be less of a concern to firms in information technology and cyclical consumer goods, and more important to firms in utilities. Ensuring that customers/suppliers are not worried about company survival appears most important to firms in information technology and less of a concern for firms in basic industries. Highly geared firms appear more likely to adopt a flexible capital structure target, whereas low gearing firms appear less likely to adopt a target. Firms with high levels of gearing appear more likely to maintain spare borrowing capacity and follow a hierarchy of financing sources. Highly geared firms also appear to attach more importance to projected cash flow/earnings and restrictive covenants.

Table 5.21: Summary of further analysis findings: Capital structure

	More likely	Less likely
Maintenance of target capital structure	Large firms Highly geared firms Product differentiation strategy	Small firms Low geared firms Cost leadership strategy Unique product strategy
Following a hierarchy of sources	Highly geared firms	
Maintaining spare debt capacity	Large firms Cyclical consumer goods General industries Information technology Highly geared firms Firms managed by division	Non-cyclical consumer goods Unique product strategy Firms managed centrally
Factors influencing the choice of debt:	**More important**	**Less important**
Tax advantage of interest deductions	Large firms Cost leadership strategy Firms managed by division	Firms managed centrally
Preventing firm from becoming take-over target	Cost leadership strategy	Small firms Product differentiation strategy
Avoiding the issue of equity to dilute existing shareholders claims		Small firms
Projected cash flow/earnings	Utilities Highly geared firms	Information technology Cyclical consumer goods
Ensuring customers/suppliers aren't worried about company survival	Information technology	Basic industries
Restrictive covenants	Highly geared firms	
Level of interest rates	Cost leadership strategy Product differentiation strategy	Unique product strategy

In terms of corporate strategy, firms adopting cost leadership and unique product strategies appear less likely to adopt a target capital structure, whereas firms competing in terms of product differentiation do. Firms adopting a unique product strategy appear less likely to maintain spare debt capacity. Firms competing in terms of cost leadership and product differentiation appear more concerned with the level of interest rates in comparison to firms competing in terms of unique products. The tax advantage of interest deductions and preventing take-over appear more important to firms adopting cost leadership strategies. Firms adopting product differentiation appear less concerned with preventing take-over. Firms managed in divisions appear more likely to maintain spare debt capacity and attach more importance to the tax advantages of interest deductions, in comparison to centrally managed firms.

5.6: Corporate leasing policy

5.6.1 The use of leasing

The popularity of leasing as a source of company finance is evident from the questionnaire responses. Approximately 84% indicated that their companies currently used, had previously used or would consider using leasing.

The use of both finance and operating leases to acquire different business asset types is shown in Table 5.22. The use of operating leases to acquire vehicles appears to be the most popular among respondents (row 5). Operating leases are also predominantly used/considered, over finance leases, to acquire land and buildings and office equipment (rows 1 and 3 respectively). The use/consideration of both finance and operating leases to obtain computer equipment appears to be approximately equal (row 4). Only in the acquisition of plant and machinery are finance leases predominantly considered/used (row 2).

On balance, responses are consistent with previous empirical research (Beattie et al., 1998) reporting the predominant and prolific use of operating leases in recent years.

Table 5.22: Use of leasing

Panel A:

	Percentage of Respondents (n=196)	
	Yes	No
Does your company use, has it used, would it consider using leasing?	84	16

Panel B:

		Percentage of respondents (n=196)[1]					
		Decision Horizon					
		Last 2-3 years		Currently		Would consider	
Row	Asset Category	FL[2]	OL	FL	OL	FL	OL
1	Land and buildings	12	37	11	43	16	33
2	Plant and machinery	35	23	32	26	32	27
3	Office equipment	15	24	14	29	17	23
4	Computer equipment	18	20	22	23	19	24
5	Vehicles	23	38	23	49	20	38

[1]Respondents were asked to tick all applicable options

[2]FL=finance lease, OL=operating lease

Table *5.23: Company's approach to leasing* decision

Row		Percentage of respondents (n=156)
1	Quantitatively analyse a leasing alternative only if asset would have been profitable on purchase basis	51
2	Quantitatively analyse potential of leasing asset even if asset purchase would not be considered profitable	18
3	Do not perform any type of quantitative analysis because simply prefer to lease some asset types	15
4	Do not perform any type of quantitative analysis but rely on judgement and experience	15

5.6.2 General approach to the leasing decision

The questionnaire investigated whether a quantitative approach is adopted in the decision to lease, and whether leasing is considered an investment decision, i.e. considered even if the purchase of an asset would be unprofitable, or purely on a financing basis once the decision to acquire the asset had been made.

Approximately 30% of respondents indicated that their company approached the leasing decision non-quantitatively, by preferring to lease certain asset types or by relying on judgement and experience (rows 3 and 4, Table 5.23). In addition, 35% of respondents indicated that only specific assets were leased (row 3, Table 5.24), and only 23% indicated that the leasing alternative was considered in all asset financing decisions (row 5, Table 5.24).

Approximately 70% indicated that the decision to lease was the product of a process of quantitative analysis (rows 1 & 2, Table 5.23). However, 51% indicated that leasing was considered only if an asset would have been profitable on a purchase basis (row 1, Table 5.23), i.e. after an investment decision had been made. Therefore, the majority of companies appear to evaluate the leasing decision purely on a financing basis.

Bank borrowing appeared to be the most popular source of finance to which leasing is compared (row 1, Table 5.25). Also, comparisons between leasing and both internal profits and hire purchase were acknowledged by 35% and 30% of respondents respectively (rows 2 and 3, Table 5.25). Therefore, leasing appears to be treated as an alternative to debt in the capital structure decision.

Slightly more than half of all respondents indicated that leasing decisions were taken centrally (row 1, Table 5.24). Despite the popularity of leasing among respondents, only an extreme minority admitted to preferring to lease assets whenever possible or adopting a target proportion of assets to be financed by leasing (rows 8 and 9, Table 5.24).

Table 5.24: How leasing fits in with overall company financing decisions

Row		Percentage of Respondents (n=196)[1]
1	Leasing decisions taken centrally	52
2	Leasing policies are set centrally	44
3	*Only specific assets leased*	35
4	Take advantage of good leasing deals if/when they arise	35
5	Leasing alternative considered in all asset financing decisions	23
6	Use leasing to solve specific financing problems	23
7	Do not have general leasing policies	14
8	Generally, prefer to lease assets whenever possible	8
9	Target proportion of assets to be financed by leasing	3

[1] Percentages exceed 100% as respondents were asked to tick all applicable options

Table 5.25: Comparison between leasing and other sources of finance

Row	Percentage of Respondents (n=196)[1]
1	Bank borrowing 53
2	Internal profit (e.g. retained profit) 35
3	Hire purchase 30
4	All forms of debt rather than a specific type 21
5	No comparison made 5

[1] Percentages exceed 100% as respondents were asked to tick all applicable options

Approximately 35% of respondents indicated that they take advantage of "good leasing deals" if/when they arise (row 4, Table 5.24). This appears to suggest that the providers of lease finance exert a significant influence on the decision to lease.

In summary, these findings appear to suggest that, more often than not, the decision to lease arises as a result of favourable comparisons with alternative sources of finance.

5.6.3 The relative importance of factors in the decision to lease

The decision to lease land and buildings and other assets were investigated separately in the questionnaire for several reasons. First, the relative importance of factors in the decision to lease significant business assets, such as land and buildings, could differ from those in the decision to lease, perhaps less significant, other assets. Second, some respondents might have responded with either leasing property or leasing other assets specifically in mind, distorting the overall view. Finally, the proposed new approach to lease accounting would have major impact on property leases which, at present, are generally treated as off-balance sheet operating leases. If the current off-balance sheet nature of operating leases is an important factor in the decision to lease, then the proposed new treatment could impact on future use.

The relative importance of factors in the decisions to lease land and buildings and other assets are shown in descending order of importance in Tables 5.26 and 5.27 respectively. A comparison of the significant differences between the two is shown in Table 5.28. In all cases, the mean responses were found to be significantly greater than 1, i.e. not important at all. This suggests that some degree of importance was placed on all the factors suggested.

On average, the most important factor in the decision to lease land and buildings was to avoid large capital outlays (mean=3.68, row 1, Table 5.26). Conservation of cash flow (mean=3.51, row 2, Table 5.26) and the rate of interest implicit in the lease compared to the cost of borrowing to purchase (mean=3.42, row 3, Table 5.26) were also considered very important. The latter was considered the most

Table 5.26: The relative importance of factors in decision to lease land and buildings

Row	Factor	Response category[1] Percentage of respondents 1	2	3	4	5	DK	Mean[2]	Standard Deviation	Grouping[3]
1	Avoiding large capital outlay	6	8	19	41	23	2	3.68	1.12	1
2	Conservation of cash flow	8	8	26	38	18	1	3.51	1.13	1 2
3	Rate of interest implicit in lease compared to cost of borrowing to purchase	6	12	29	37	14	1	3.42	1.06	2 3
4	Positive outcome to quantitative analysis	12	14	23	32	9	9	3.14	1.21	3 4
5	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	13	17	28	30	9	4	3.04	1.18	5 4
6	Lease rentals are tax deductible but capital allowances are not available on assets purchased	12	20	35	20	8	5	2.92	1.13	5 6 4
7	Leasing can be obtained on any scale	19	21	22	29	7	1	2.82	1.24	5 6 7
8	Leasing permits the total financing of an asset (apart from advance rental deposit)	18	28	21	25	5	4	2.70	1.19	6 7
9	Lease covenants are generally less restrictive than debt covenants	18	27	24	21	2	8	2.59	1.11	8 7
10	Operating leases not accounted for on the balance sheet and have no impact on financial accounting ratios	24	26	24	16	8	2	2.58	1.26	8 9 7
11	Leasing has the ability to offer a complete package	20	30	19	21	4	6	2.55	1.17	8 9 7
12	Expanding overall debt-type capacity	24	29	21	17	2	7	2.40	1.13	8 9 10
13	Leasing has minimal impact on measures used in current debt covenants	22	32	28	11	2	5	2.36	1.04	8 9 10
14	Leasing can reduce/eliminate the risk of ownership	22	39	22	11	2	4	2.31	1.02	11 9 10
15	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	25	25	31	7	3	9	2.30	1.06	11 9 10 12
16	Leasing is conveniently offered at asset point of sale	38	22	19	14	3	4	2.19	1.20	11 13 10 12
17	Leasing is easier to arrange from an administrative point of view	26	40	18	9	2	4	2.18	1.01	11 13 10 12
18	Higher disposal value of leased property	28	37	20	8	2	6	2.13	0.98	11 13 10 12
19	Legal consequences of default are less severe for leasing	33	32	20	8	2	7	2.07	1.02	11 13 12
20	Contingent lease rentals can reduce company exposure to economic or business downturns	32	30	20	3	2	11	2.05	1.01	13 12
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	35	39	15	5	1	4	1.95	0.94	13
22	Operating lease expenditure avoids capital expenditure controls	55	34	6	2	1	2	1.57	0.78	14

[1] 1= not important at all, 2=of little importance, 3=fairly important, 4=important and 5=very important)

[2] All mean responses significantly different from not important at all (ie. 1) at 1% level (one-tailed test)

[3] Grouping based on statistical difference between at 5% two tailed test
(Mann-Whitney confidence interval and test procedure in Minitab)

Table 5.27: The relative importance of factors in decision to lease other assets

Row	Factor	Response category[1] Percentage of respondents 1	2	3	4	5	DK	Mean[2]	Standard Deviation	Grouping[3]
1	Rate of interest implicit in lease compared to cost of borrowing to purchase	3	8	28	44	15	1	3.60	0.96	1
2	Conservation of cash flow	4	11	26	43	16	1	3.57	1.00	1
3	Avoiding large capital outlay	8	11	26	41	12	1	3.39	1.11	1 2
4	Positive outcome to quantitative analysis	13	14	20	34	11	8	3.18	1.24	2 3
5	Leasing has the ability to offer a complete package	11	20	25	30	12	3	3.11	1.20	3
6	Leasing can be obtained on any scale	13	19	24	35	9	1	3.08	1.19	3
7	Transfer of capital tax allowances to leasing company reflected in lower lease rental cost	9	17	33	32	5	3	3.08	1.05	3
8	Leasing permits the total financing of an asset (apart from advance rental deposit)	12	24	25	31	7	2	2.97	1.15	3 4
9	Lease rentals are tax deductible but capital allowances are not available on assets purchased	12	25	36	17	7	4	2.83	1.10	5 4
10	Operating leases not accounted for on the balance sheet and have no impact on financial accounting ratios	22	23	28	18	7	1	2.64	1.23	5 6
11	Leasing can reduce/eliminate the risk of ownership	15	38	24	17	2	4	2.51	1.02	6 7
12	Lease agreements flexible, sharing asset risk and economic benefit between parties as required	19	25	32	11	4	9	2.51	1.07	6 7
13	Leasing is easier to arrange from an administrative point of view	22	32	21	18	3	3	2.47	1.14	6 7 8
14	Lease covenants are generally less restrictive than debt covenants	24	24	20	22	1	8	2.47	1.16	6 7 8
15	Expenditure under finance leasing, qualifying for capital tax allowances is time apportioned in first year	17	33	30	12	2	6	2.47	1.01	6 7 8
16	Expanding overall debt-type capacity	24	28	20	19	1	7	2.42	1.13	6 7 8
17	Leasing is conveniently offered at asset point of sale	30	22	22	18	4	4	2.42	1.24	6 7 8 9
18	Leasing has minimal impact on measures used in current debt covenants	22	33	30	8	3	5	2.34	1.02	6 7 8 9
19	Expenditure on long-life assets qualifying for capital tax allowances is restricted to a WDA of 6%	21	32	31	7	1	8	2.29	0.93	7 8 9
20	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	28	34	19	9	6	4	2.27	1.15	10 8 9
21	Higher disposal value of leased property	24	35	25	10	1	4	2.27	1.01	10 8 9
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	33	34	21	8	3	2	2.12	1.05	10 9
23	Legal consequences of default are less severe for leasing	28	36	18	8	1	8	2.11	0.99	10 9
24	Contingent lease rentals can reduce company exposure to economic or business downturns	30	35	18	5	1	11	2.01	0.93	10
25	Operating lease expenditure avoids capital expenditure controls	54	34	5	4	1	1	1.64	0.89	11

[1] 1= not important at all, 2=of little importance, 3=fairly important, 4=important and 5=very important)

[2] All mean responses significantly different from not important at all (ie. 1) at 1% level (one-tailed test)

[3] Grouping based on statistical difference between at 5% two tailed test
(Mann-Whitney confidence interval and test procedure in Minitab)

Table 5.28:Comparison of the significant differences between the importance of factors in the decision to lease land and buildings and other assets

		Land and Buildings		Other Assets		
Row	Factor	Mean	Standard Deviation	Mean	Standard Deviation	Difference in Means[1]
1	Avoiding large capital outlay	3.68	1.12	3.38	1.11	0.30**
2	Incentives to lease given by lessor (e.g. rent-free periods or reverse premiums)	3.04	1.18	2.27	1.15	0.77**
3	Leasing has the ability to offer a complete package	2.55	1.17	3.11	1.20	-0.56**
4	Leasing is easier to arrange from an administrative point of view	2.18	1.01	2.47	1.14	-0.29**

[1]** significant difference at 5% or above (Mann-Whitney confidence interval and test procedure in Minitab)

important factor in the decision to lease other assets (mean=3.60, row 1, Table 5.27). Conservation of cash flow (mean=3.57, row 2, Table 5.27) and avoiding large capital outlay (mean=3.39, row 3, Table 5.27) were ranked second and third in importance (thus the same top three). However, the responses to avoiding large capital outlay being important in the decision to lease land and buildings and other assets were significantly different (row 1, Table 5.28). Avoiding large capital outlay appears to be more important in leasing land and buildings which is hardly surprising considering the purchase of land and buildings would probably involve a greater capital outlay than the purchase of most other assets.

A positive outcome to quantitative analysis was ranked fourth in importance in the decision to lease both land and buildings and other assets. Only 12% and 13% respectively indicated that a positive outcome to quantitative analysis was not important at all (row 4, Tables 5.26 and 5.27). These findings appear somewhat inconsistent, considering approximately 30% of respondents previously acknowledged that they did not undertake quantitative analysis (Table 5.23).

One major difference between the decision to lease land and buildings and the decision to lease other assets appears to be incentives offered by the lessor, such as rent-free periods or reverse premiums. This factor was ranked fifth in importance in the decision to lease land and buildings (mean=3.04, row 5, Table 5.26), but ranked twentieth in the decision to lease other assets (mean=2.27, row 20, Table 5.27). The difference was also found to be statistically significant between the two (row 2, Table 5.28). Perhaps incentives are more readily available and/or more valuable in lease agreements for land and buildings.

Further differences appear to be in the importance placed on the ability of leasing to offer a complete package (row 3, Table 5.28), and the ease with which leasing can be arranged from an administrative point of view (row 4, Table 5.28). These two factors appear to be more important in the decision to lease other assets. However, in the case of land and buildings, maintenance contracts etc. could be just as easily be available on freehold property through appointed property managers at the time of purchase, as through lease agreements. In relation to administrative arrangements, a long term property lease, with the exception of additional finance

arrangements required to purchase, could require as close a scrutiny and involve the same legal checks as a purchase contract. Further, the administration involved could be considered increasingly insignificant in relation to the acquisition of an asset as significant as property.

The relative importance of other factors in the decision to lease both land and buildings and other assets appear relatively similar. To provide a greater indication of relative importance, factors in the decision to lease both land and buildings and other assets were grouped on the basis of statistical differences. For land and buildings, groupings range from 1, the most important, to 14, the least important. For other assets 11 was the least important. Due to the large amount of factors in the decision to lease land and buildings and other assets, the grouping is extremely complex. A number of factors belong in up to three groupings, and some in up to four, owing to the statistical differences found between factors within Tables 5.26 and 5.27. However, it is visually useful in that it reduces 22 and 25 factors of descending importance into 14 and 11 groupings, and indicates that the factors at the top and bottom of Tables 5.26 and 5.27 are clearly statistically in descending order of importance.

The reasons for leasing arising from previous research have been grouped into four categories, namely tax saving reasons, borrowing capacity and repayment reasons, other financial/transactional reasons and risk sharing reasons.

5.6.4 Tax saving reasons for leasing:

If an asset qualifies for capital tax allowances, lessors could take advantage when lessees have insufficient use for them, the incentive for lessees being the associated benefit of paying lower rentals. This could be enhanced if lessors could make use of tax savings earlier than lessee, and reduced if lessee could obtain greater capital tax allowances than lessor. Respondents were, therefore, asked the importance of three additional factors concerning tax implications, which are only applicable to the decision to lease other assets, as commercial land and buildings do not generally qualify for capital tax allowances.

The transfer of capital tax allowances to the lessor being reflected in lower rental cost was ranked seventh in importance and belonged to grouping 3 (mean=3.08, row 7, Table 5.27). Therefore, this factor, which has often been suggested as a major contributor to the growth of leasing as a source of finance in the first instance, still appears to exert some degree of influence. Responses appear to support empirical research in the US and UK (Graham et al.,1998; Adedeji and Stapleton, 1986; Lasfer and Levis, 1998) inferring that high levels of leasing are accompanied by a low tax paying status.

Subsequent curtailments to this tax benefit of leasing in the form of time apportioning expenditure, qualifying for capital tax allowances, under finance leasing in the first year, and restricting written down allowances on long-life assets appear less important (means=2.47 and 2.29, rows 15 and 19, Table 5.27 respectively).

If an asset does not qualify for capital tax allowances, only interest payments on any borrowings to purchase are tax deductible, compared to total lease rental payments. This factor was ranked sixth in importance, grouping 4/5/6, in the decision to lease land and buildings (mean=2.92, row 6, Table 5.26) and ninth in importance, grouping 4/5, in the decision to lease other assets (mean=2.83, row 9, Table 5.27).

5.6.5 Borrowing capacity and repayment reasons for leasing

If lease obligations consume less debt capacity than non-leasing alternatives, leasing might be favoured in order to expand overall debt capacity. Approximately 53% of respondents indicated that expanding overall debt-type capacity was of little importance or not important at all in the decision to lease both land and buildings (mean=2.40, row 12, Table 5.26) and other assets (mean=2.42, row 16, Table 5.27).

It has been suggested that lease agreements generally contain less restrictive covenants reducing their impact on obtaining future finance (Smith & Wakeman, 1985; Day, 2000). This factor was considered to be fairly to very important by 47% of respondents in the decision to lease land and buildings (mean=2.59, row 9, Table 5.26) and 43% in the decision to lease other assets (mean=2.47, row 14, Table 5.27).

The suggestion that leasing has minimal impact on measures used in current debt covenants was of little or no importance to 54% in the decision to lease land and buildings (mean=2.36, row 13, Table 5.26), and 55% in the decision to lease other assets (mean=2.34, row 18, Table 5.27).

Leasing is equally obtainable for the acquisition of individual assets or for smaller scale operations as it is for larger operations, whereas long-term debt is usually arranged on a larger scale. This factor was considered to be fairly to very important by 58% of respondents in the decision to lease land and buildings (mean=2.82, row 7, Table 5.26), and 68% in the decision to lease other assets (mean=3.08, row 6, Table 5.27).

The fact that leasing permits the total financing of an asset (apart from an advance rental deposit) was thought to be fairly to very important by approximately 50% in the decision to lease land and buildings (mean=2.7, row 8, Table 5.26), and 63% in the decision to lease other assets (mean=2.97, row 8, Table 5.27).

Although conservation of cash flow was ranked second in importance in the decision to lease both land and buildings (mean=3.51, row 2, Table 5.26) and other assets (mean=3.57, row 2, Table 5.27), the flexibility of lease repayments to accommodate future cash flows was considered much less important.

Lease arrangements in which rentals increase over time, or the final payment is a balloon rental, enabling low rentals to be charged early on, were of little or no importance to 74% in the decision to lease land and buildings (mean=1.95, row 21, Table 5.26) and 67% in the decision to lease other assets (mean=2.12, row 22, Table 5.27).

If leasing is classed as revenue expenditure, business assets might be acquired without following a capital expenditure application procedure. The importance of this factor was refuted by the vast majority of respondents in the decision to lease land and buildings (mean=1.57, row 22, Table 5.26) and other assets (mean=1.64, row 25, Table 5.27).

5.6.6 Other financial/transactional reasons for leasing

A suggested major contributor to the initial growth in leasing was its off-balance sheet nature. The current lease accounting standard SSAP21 still permits operating lease expenditure to remain off-balance sheet, having no impact on financial accounting ratios. However, this does not appear to be of prime importance among respondents in their decision to lease both land and buildings or other assets (mean=2.58, row 10, Table 5.26 and mean=2.64, row 10, Table 5.27). These findings suggest that the new proposals to bring operating lease expenditure onto the balance sheet would have no major impact on the decision to lease.

This is surprising considering there is empirical evidence to suggest that operating leases, if capitalised, would have a significant impact on financial accounting ratios (Beattie et al., 1998). Although, there is also evidence to suggest that the UK market does seem to currently adjust for operating leases in its assessment of equity risk (Beattie et al., 2000), responses did not appear to suggest wide agreement with the notion of market efficiency (Table 5.15).

It has been suggested that the application process for lease finance is easier compared to other sources of finance with the involvement of minimum paperwork (Day, 2000). Approximately 66% of respondents indicated this was of little or no importance in the decision to lease land and buildings (mean=2.18, row 17, Table 5.26) and 54% in the decision to lease other assets (mean=2.47, row 13, Table 5.27). These findings are consistent with UK survey evidence of ten years previous (Drury and Braund, 1990). Thus the importance of the ease with which lease finance can be arranged does not appeared to have changed over time.

Leasing often has the convenience of being offered at point of sale, with the possibility of the cost of an asset being reduced by the offer of favourable lease terms on the part of the manufacturer. This factor was of little or no importance to 60% of respondents in the decision to lease land and buildings (mean=2.19, row 16, Table 5.26) and 52% in the decision to lease other assets (mean =2.42, row 17, Table 5.27).

5.6.7 Risk sharing reasons for leasing

Lease agreements provide the opportunity to alter the distribution of risk, and consequently rewards between lessee and lessor. This flexibility was considered to be of little or no importance by 50% of respondents in the decision to lease land and buildings (mean=2.3, row 15, Table 5.26), but only by 44% in the decision to lease other assets (mean=2.51, row 12, Table 5.27).

Contingent rentals

In lease agreements with a contingent element to rental payments, the lessee, in effect, converts a fixed repayment cost to one which varies with use/operating performance, thus reducing the risk of financial distress. The lessor, in exchange for running the risk of lower rental payments in line with poor lessee performance, would seek a higher return in the first instance. In lease agreements with rentals that increase in line with market prices, the risk borne by the lessee of prices going up would be reflected in lower rental payments in the first instance.

On average, respondents did not appear to place a high level of importance on reducing company exposure to economic or business downturns with the use of contingent lease rentals. This factor was of little or no importance to 62% of respondents in the decision to lease land and buildings (mean=2.05, row 20, Table 5.26) and to 65% in the decision to lease other assets (mean=2.01, row 24, Table 5.27).

The use, by respondents, of contingent elements in lease agreements for both land and buildings and other assets is shown in Tables 5.29 and 5.30, respectively. The most common contingent element to lease agreements entered into by respondents, appeared to be rentals which vary in line with prices in respect of leased land and buildings (mean=2.44, row 1, Table 5.29). However, approximately 50% (72 respondents) did indicate this was never or seldom the case. Of these respondents, 24% were not currently engaged in leasing land and buildings. Therefore, findings could reflect, to some extent, that respondents indicated that they never or seldom enter lease agreements for land and buildings with rentals that vary in line with prices, because they never or seldom enter into lease agreements for land and buildings. An analysis of respondents currently leasing land and buildings and

Table 5.29: The use of a contingent element in leases for land and buildings

Row	To what extent does your company enter lease agreements in which rentals vary with:	Response category[1]						Mean[2]	Standard Deviation
		1	2	3	4	5	DK		
		Percentage of respondents							
1	In line with prices (upward-only rent reviews)	44	6	17	27	6	0	2.44	1.42
2	Revenue/profits derived from use of leased asset	83	10	7	0	1	0	1.26	0.65
3	Usage	90	8	1	1	0	0	1.13	0.43

[1]1=never, 2=seldom, 3=sometimes, 4=usually, 5=always and DK=don't know)

[2]All mean responses significantly different from never (ie. 1) at 1% level (one-tailed test)

Table 5.30: The use of a contingent elements in leases for other assets

Row	To what extent does your company enter lease agreements in which rentals vary with:	Response category[1]						Mean[2]	Standard Deviation
		1	2	3	4	5	DK		
		Percentage of respondents							
1	Usage	69	6	16	8	1	0	1.66	1.08
2	In line with prices (upward-only rent reviews)	78	9	8	3	1	0	1.39	0.84
3	Revenue/profits derived from use of leased asset	87	8	4	1	1	1	1.21	0.62

[1]1=never, 2=seldom, 3=sometimes, 4=usually, 5=always and DK=don't know)

[2]All mean responses significantly different from never (ie. 1) at 1% level (one-tailed test)

entering agreements with rentals that vary in line with prices is shown in Appendix 16. Of the 90 respondents currently engaged in leasing land and buildings, approximately 44% usually or always enter agreements with rentals which vary in line with prices, 15% sometimes do and 41% seldom or never do. This is somewhat surprising given that property leases in the UK are typically long-term leases in which rentals are increased to prevailing market prices at regular intervals. Further, according to the Finance and Leasing Association, property leases without rent rises are virtually non-existent in the UK.

Although the most popular contingent element in lease agreements for other assets appeared to be rentals that vary with usage, 69% of respondents indicated that they never enter such agreements (mean=1.66, row 1 Table 5.30). *Agreements in which* rentals vary with revenue/profits were not entered into by 83% of respondents in respect of land and buildings (mean=1.26, row 2, Table 5.29) and 87% in respect of other assets (mean=1.21, row 3, Table 5.30). An analysis of respondents currently leasing plant and machinery, office equipment, computer equipment and vehicles and entering lease agreements for other assets with contingent rentals is shown in Appendix 17. Contingent rentals do not appear to feature in the lease agreements currently held by respondents in respect of other assets.

In general, lease agreements with contingent elements did not appear common amongst respondents. However, lease agreements for land and buildings with rentals increasing in line with prices were more prominent when respondents currently leasing land and buildings were considered in isolation. As the new approach to lease accounting would have major impact on property leases contingent on prevailing market prices, a significant number of lessees could well be affected.

Residual arrangements

The risks associated with the disposal of an asset, at the end of a lease agreement, can be appropriated between lessee and lessor via various residual arrangements. The extent of respondents' interest in the residual value of both their leased land and buildings and other assets is shown in Tables 5.31 and 5.32, respectively.

Table 5.31: Lessee interest in the residual value of leased land and buildings

Row	To what extent does your company enter lease agreements in which:	Response category[1]						Mean[2]	Standard Deviation
		1	2	3	4	5	DK		
		Percentage of respondents							
1	Ownership is transferred to lessee at the end of the contract	75	7	8	6	4	0	1.58	1.14
2	All or a share of the proceeds is received by lessee on the sale of the leased asset	77	10	8	2	3	0	1.44	0.95
3	A surplus is received by lessee if the residual value is above a certain amount	79	9	10	1	1	0	1.36	0.78
4	A guarantee is given by lessee to pay compensation if the residual value is below a certain amount	83	9	6	1	1	0	1.26	0.67

[1]1=never, 2=seldom, 3=sometimes, 4=usually, 5=always and DK=don't know)

[2]All mean responses significantly different from never (ie. 1) at 1% level (one-tailed test)

Table 5.32: Lessee interest in the residual value of other leased assets

Row	To what extent does your company enter lease agreements in which:	Response category[1]						Mean[2]	Standard Deviation
		1	2	3	4	5	DK		
		Percentage of respondents							
1	Ownership is transferred to lessee at the end of the contract	26	12	36	19	8	0	2.71	1.26
2	All or a share of the proceeds is received by lessee on the sale of the leased asset	46	14	26	10	4	0	2.13	1.23
3	A surplus is received by lessee if the residual value is above a certain amount	49	16	28	6	1	0	1.96	1.07
4	A guarantee is given by lessee to pay compensation if the residual value is below a certain amount	56	21	18	4	1	0	1.74	0.98

[1]1=never, 2=seldom, 3=sometimes, 4=usually, 5=always and DK=don't know)

[2]All mean responses significantly different from never (ie. 1) at 1% level (one-tailed test)

The most common form of residual interest appeared to be the transfer of ownership at the end of lease contracts (row 1, Tables 5.31 and 5.32). However, this transfer of ownership was far more widespread in the leasing of other assets (mean=2.71) compared to land and buildings (mean=1.58).

Receiving a share of the sales proceeds of other leased assets (mean=2.13) was more common than receiving a share of the sale proceeds of leased land and buildings (mean=1.44). Giving a guarantee to pay compensation for a residual value below a certain amount appeared least common in the leasing of both land and buildings and other assets (mean=1.26 and 1.74, row 4, Tables 5.31 and 5.32). In addition, respondents did not appear to place much importance on the disposal value of leased property being higher because the lessor has better access to or knowledge of markets. Approximately, 65% of respondents indicated this was of little or no importance in the decision to lease land and buildings (mean=2.13, 11/12, row 18, Table 5.26), and 59% in the decision to lease other assets (mean=2.27, row 21, Table 5.27).

In summary, any compensation/liability arising from the residual value of leased assets did not appear widespread among respondents.

5.6.8 Respondents' perceptions of the relationship between leasing and borrowing

Previous UK empirical research (Beattie et al., 2000) has found total leasing and borrowing to be partial substitutes, with lease obligations consuming less overall borrowing capacity. On this basis, the decision to lease was investigated in conjunction with overall capital structure decisions in this questionnaire.

Respondents' perceptions of the relationship between finance leasing and borrowing and operating leases and borrowing are shown in Table 5.33. In contrast to previous findings, the most popular perception amongst respondents appeared to be of a complementary relationship (49% agreed, row 1, Panel A and Panel B, Table 5.33). Approximately 35% of respondents indicated that finance leasing is a substitute for borrowing (Panel A), with only 14% perceiving it to consume less borrowing capacity (row 3, Panel A). In the case of operating leases, only 16% indicated

Table 5.33: The relationship between leasing and borrowing

Panel A:
Finance leasing and borrowing

Row		Percentage of respondents (n=142)
1	Leasing complements borrowing and increases company overall borrowing capacity	49
2	Leasing is a substitute for borrowing, consuming the same borrowing capacity	19
3	Leasing is a substitute for borrowing, consuming less borrowing capacity	14
4	Don't know	11
5	Leasing has no bearing on company borrowing	6
6	Leasing is a substitute for borrowing, consuming more borrowing capacity	2
	Total	100

Panel B:
Operating leasing and borrowing

Row		Percentage of respondents (n=152)
1	Leasing complements borrowing and increases company overall borrowing capacity	49
2	Leasing has no bearing on company borrowing	28
3	Leasing is a substitute for borrowing, consuming the same borrowing capacity	9
4	Don't know	7
5	Leasing is a substitute for borrowing, consuming less borrowing capacity	6
6	Leasing is a substitute for borrowing, consuming more borrowing capacity	1
	Total	100

substitutability (Panel B) with 6% perceiving it to consume less debt capacity (row 5, Panel B).

These findings appear somewhat inconsistent when 75% of respondents previously acknowledged lease-debt substitutability by recognising fixed finance and operating lease payments in their measures of financial gearing. However, on reflection, findings might be the product of confusion created in the wording of the question (row 1, Panel A and Panel B, Table 5.33). It is not clear whether respondents perceived leasing and borrowing to really be complements In this case, leasing would have no impact on non-leasing debt and would increase *overall* debt capacity by the full amount of lease finance. Alternatively respondents may perceive that leasing consumes less borrowing capacity than non-leasing debt alternatives and thus increases overall borrowing capacity by part of the amount of lease finance (i.e. partial substitution).

5.6.9 The relative importance of factors in the decision *not* to lease

The relative importance of nine factors in the decision not to lease land and buildings and other assets are shown in Tables 5.34 and 5.35 respectively. The vast majority of respondents (84%) indicated that their companies currently used, previously used, or consider using leasing. Therefore, the decision not to lease is mainly in the context of not leasing in a particular circumstance, rather than taking the decision never to lease[7]. All mean responses were found to be statistically significantly different from 1, i.e. not important at all. This appears to suggest that all the factors considered appeared to affect the decision not to lease, at least to some degree.

The most important factor in the decision not to lease both land and buildings and other assets appeared to be the expense involved compared to other sources of finance (means=3.36 and 3.68, row 1, Tables 5.34 and 5.35). Company preference for legal ownership was ranked second in importance (means=2.98 and 2.77, row 2,

[7] With one exception, an analysis of the importance attached to factors in the decision not to lease failed to highlight any significant difference between actual/potential lessees and non-lessees: Non-lessees placed more importance on company preference for legal ownership of other assets.

Table 5.34: The relative importance of factors in decision *not* to lease land and buildings

Row	Factor	Response category[1] 1	2	3	4	5	DK	Mean[2]	Standard Deviation	Grouping[3]
		Percentage of respondents								
1	Leasing is more expensive than other sources of finance	11	13	22	29	21	3	3.36	1.27	1
2	Company preference for legal ownership	17	26	12	29	15	1	2.98	1.37	2
3	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at lessor's discretion	19	21	29	23	6	2	2.77	1.20	2
4	Loss of grants/taxation allowances if an asset is leased	27	28	28	11	3	4	2.32	1.08	3
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	37	31	11	12	4	5	2.11	1.18	4
6	Assets acquired under lease agreements can be repossessed if company defaults	41	35	16	4	1	3	1.87	0.92	4 5
7	Some key company executives are opposed to leasing	52	29	8	6	1	4	1.71	0.97	6 5
8	Leasing does not provide 100% finance due to the requirement of advance rentals	44	41	10	1	1	3	1.70	0.76	6 5
9	Leasing indicates a source of financial weakness	53	35	8	2	0	1	1.58	0.73	6

Table 5.35: The relative importance of factors in decision *not* to lease other assets

Row	Factor	Response category[1] 1	2	3	4	5	DK	Mean[2]	Standard Deviation	Grouping[3]
		Percentage of respondents								
1	Leasing is more expensive than other sources of finance	4	9	26	32	26	2	3.68	1.10	1
2	Company preference for legal ownership	19	28	18	24	10	1	2.77	1.29	2
3	Control over and hence the ability to use leased property is limited to duration of lease agreement with extension at lessor's discretion	20	28	31	14	6	1	2.58	1.14	3
4	Loss of grants/taxation allowances if an asset is leased	25	22	34	13	2	3	2.43	1.09	3
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	31	28	14	17	7	4	2.37	1.29	3
6	Assets acquired under lease agreements can be repossessed if company defaults	40	38	15	4	1	2	1.86	0.90	4
7	Some key company executives are opposed to leasing	50	28	8	9	2	3	1.80	1.05	4 5
8	Leasing does not provide 100% finance due to the requirement of advance rentals	44	41	10	1	0	4	1.68	0.72	4 5
9	Leasing indicates a source of financial weakness	53	33	10	2	0	1	1.62	0.77	5

[1] 1= not important at all, 2=of little importance, 3=fairly important, 4=important and 5=very important)

[2] All mean responses significantly different from not important at all (ie. 1) at 1% level (one-tailed test)

[3] Grouping based on statistical difference between at 5% two tailed test
(Mann-Whitney confidence interval and test procedure in Minitab)

Tables 5.34 and 5.35). The least important factor in the decision not to lease both land and buildings and other assets appeared to be the notion that leasing indicates a source of financial weakness (means=1.58 and 1.62, row 9, Tables 5.34 and 5.35).

The Mann-Whitney confidence interval and test procedure in Minitab was used to establish if the differences between the relative importance of factors in the decision not to lease land and buildings and not to lease other assets were statistically significant. Only the expense involved in leasing compared to other sources of finance was found to be statistically more important in the decision not to lease other assets compared to land and buildings. However, this finding might reflect the ease with which other assets could be obtained using other sources of finance. Respondents might not always have the choice between leasing and purchasing land and buildings. General comments made by respondents provide some indication of this being the case. (For example, "the alternative to leasing is not always available" and "the properties we operate from are only available on lease").

Three factors suggested in the decision not to lease (Tables 5.34 and 5.35) correspond to factors suggested in the decision to lease (Tables 5.26 and 5.27). In order to test for consistency in the responses provided, a comparison was made and correlation coefficients obtained.

If leasing being more expensive than other sources of finance was important in the decision not to lease (row 1, Tables 5.34 and 5.35), the rate of interest implicit in leasing compared to borrowing (row 3, Table 5.26 and row 1, Table 5.27) might be expected to be equally important in the decision to lease. The Spearman correlation coefficient between the two sets of responses is 0.603 (p=0.000) for land and buildings and 0.396 (p=0.000) for other assets. Therefore, the importance of the cost of leasing compared to other sources appears consistent across respondents' decisions to lease and not to lease.

If the loss of grants/taxation allowances were important in the decision not to lease other assets (row 4, Table 5.35), this might suggest that respondents derive more benefit from their own use of such allowances. The opposite would be true if transferring capital tax allowances to the leasing company reflected in lower lease

rental cost were important in the decision to lease other assets (row 7, Table 5.27). The Spearman correlation coefficient between the two sets of responses is 0.234 (p=0.011). If respondents mostly derived benefit from either their own use of tax allowances or transferring them to the leasing company, a negative correlation coefficient might have been expected. However, a positive relationship does not necessarily indicate inconsistency in responses. It might merely reflect that in some leasing opportunities, the loss of tax allowances brings no additional benefit and is, therefore, a deciding factor in the decision not to lease. Whereas with other opportunities, a benefit derived from transferring the tax allowances is a deciding factor in the decision to lease.

In summary, grants/taxation allowances do appear to be a consideration in the leasing decision. As more importance appears to be placed on transferring allowances (mean=3.08, row 7, Table 5.27) compared to the loss (mean=2.43, row 4, Table 5.35)[8], leasing appears to offer an advantage.

The repossession of leased assets from lessees in default does not appear to be an important consideration in the decision not to lease land and buildings and other assets (means=1.87 and 1.86, row 6, Tables 5.34 and 5.35). This could indicate that respondents either don't contemplate default or don't consider repossession a serious consequence. However, the legal consequence of default being less severe for leasing also does not appear to be an important consideration in the decision to lease both land and buildings and other assets (mean=1.02 and 2.11, rows 19 and 23, Tables 5.26 and 5.27). The correlation coefficients between the two sets of responses are 0.406 (p=0.000) for land and buildings and 0.5000 (p=0.000) for other assets. Therefore, respondents don't appear to contemplate default in the leasing decision, in which case the less severe consequences of leasing don't appear to be an advantage.

[8] Mann-Whitney confidence interval and test procedure in Minitab confirmed significant difference at 5% level between two sets of responses.

5.7: Corporate leasing policy: Further analysis

The use of leasing and the relative importance of factors in the decisions to lease and not to lease, land and buildings and other assets, were analysed by several firm characteristics: size, industry classification and financial gearing.

5.7.1 Further analysis by size

Small and medium-sized firms benefit from a 40% first year writing down capital tax allowance on qualifying asset expenditure[9]. For this reason, small firms may be less inclined to lease. However, leasing has the advantage of providing finance for small-scale operations or individual assets. Also, small firms suffer from diseconomies of scale, and are therefore unlikely to be able to obtain or dispose of assets as economically as a lessor. Small firms may also have less access to the long-term debt market in terms of cost or lack of credit status.

The process of establishing the relative size of responding firms (in terms of total assets and sales) is described in Section 5.4.1.[10]; large (small) firms are the top (bottom) third of respondent companies. The response from large and small firms in relation to using or considering leasing is shown in Panel A of Appendix 18. There is no apparent difference between responses in relation to use on the basis of size.

A comparison of the relative importance of factors, to large and small firms, in the decision to lease land and buildings and other assets is shown in Panel A and Panel B of Appendix 19 respectively. For the majority of factors, there does not appear to be a significant difference in the importance attached. However, in the decision to lease both land and buildings and other assets, both avoiding a large capital outlay (row 2) and the conservation of cash flow (row 14) appear more important to small firms. As expected, leasing also appears to be favoured by small firms in relation to availability on any scale (row 21). Large firms appear to place more importance on a positive outcome to quantitative analysis in the decision to lease land and

[9] A firm is classed as small or medium-sized if it satisfies at least two of the following conditions:
Small firms: annual turnover < £2.8 million, assets < £1.4 million, employees < 50
Medium firms: annual turnover <£11.2 million, assets < £5.6 million, employees < 250.

[10] The mean total assets for the sample of small firms is £11 million. Therefore, a number of firms classed as small may not necessarily qualify for 40% writing down allowance.

buildings (row 3, Panel A), and the cost of leasing in comparison to borrowing to purchase other assets (row 4, Panel B).

A comparison of the responses provided by small and large firms in the decision *not to* lease land and buildings and other assets is shown in Panel C and Panel D of Appendix 19 respectively. Against expectations, small firms were not found to place more importance on the loss of grants/taxation allowances (row 7, Panel D). Large firms appear more likely to disregard leasing because it is more expensive in comparison to other sources of finance (row 1, Panel C and Panel D). Large firms also appear to have a preference for legal ownership in relation to land and buildings (row 2, Panel C). Further, the use of highly specialised/company specific assets appears to be a more important factor in large firms when deciding not to lease (row 9, Panel C and Panel D).

5.7.2 Further analysis by industry classification

The industry in which a firm operates has been found to influence the use of leasing (see Section 3.7, Chapter 3). This is not surprising given that the characteristics enhancing or mitigating the use of leasing may be typical of firms operating in certain industries. The classification of questionnaire responses by industry is described in Section 5.4.2 of this chapter. The use of leasing across industries is shown in Panel B of Appendix 18. Firms operating in information technology appear more likely to use, or to consider the use of, leasing than firms in the other industry groups. This appears to support the suggestion that reducing the risk of obsolescence is an important advantage when leasing assets that are subject to rapid changes. Leasing also appears commonplace in firms operating in the general industries and cyclical services groups. These industries range from general retailers, leisure, entertainment and hotels to engineering, aerospace and defence. The assets used in these industries are fairly standard and capable of being re-deployed from firm to firm, and thus conducive to being the subject of lease agreements.

A comparison of the relative importance of factors in the decision to lease land and buildings and other assets, according to industry classification, is shown in Panel A

and Panel B of Appendix 20 respectively. The majority of differences in response were not found to be statistically significant. However, the importance attached to avoiding large capital outlay, and the interest rate implicit in the lease compared to borrowing in respect of land and buildings, does appear to differ across industries. Utility firms appear to place more importance on the use of leasing to avoid large capital outlays, in comparison, for example, to firms dealing in cyclical consumer goods (row 2, Panel A). Utility firms also appear to place more importance on the interest rate implicit in the lease, which is much less of a concern to firms operating, for example, in cyclical services (row 4, Panel A). Any differences in the relative importance placed on factors in the decision to lease other assets were not found to be statistically significant.

A comparison across industries in relation to the importance of factors in the decision *not to* lease land and buildings and other assets is shown in Panel C and Panel D of Appendix 20 respectively. The limited duration of occupancy of land and buildings under a lease agreement appears more important to firms operating in non-cyclical services compared to, for example, utility firms. However, the loss of grants/taxation allowances appears much less important to firms in non-cyclical services. Information technology firms and firms providing cyclical services don't appear to consider that the use of specialised or company specific assets makes leasing an expensive option.

5.7.3 Further analysis by level of gearing

Evidence suggests that leasing and non-leasing debt appear to be at least partial substitutes (Marston and Harris, 1988; Beattie et. al., 2000). A firm's capital structure and its capacity for debt appear to influence the use of leasing. Highly geared firms might be expected to use leasing because it is perceived to consume less overall debt capacity or because it isn't accompanied by additional restrictive covenants. Respondents were classified as high gearing and low gearing firms as described in Section 5.4.3.

A comparison of the use of leasing by firms with high and low levels of gearing is shown in Panel C of Appendix 18. The difference in use on the basis of gearing does not appear to be statistically significant.

A comparison of the relative importance of factors in the decision to lease land and buildings and other assets, to high and low geared firms, is shown in Panel A and Panel B of Appendix 21 respectively. For the majority of factors there does not appear to be any significant difference. However, the provision of total asset financing through leasing appears less important to highly geared firms (row 7, Panel A and Panel B), as does a higher disposal value in relation to leased assets (row 17, Panel B). Firms with high levels of total gearing appear to attach more importance to the fact that leasing has minimal impact on measures used in their current debt covenants (row 11, Panel A and Panel B). This is hardly surprising when highly geared firms are more likely to be in breach of debt covenants.

A comparison of the relative importance of factors in the decision *not to* lease is shown in Panel C and Panel D of Appendix 21 respectively. Highly geared firms appear to attach more importance on the legal ownership of land and buildings, and the limitation in terms of control over leased property (row 6, Panel C). Perhaps highly geared firms use owned property as collateral when raising high levels of debt. Also, in the event of default, highly geared firms may prefer not to run the risk of early eviction from leased premises.

5.8: Corporate leasing policy: Results summary

Evidence in relation to corporate leasing policy was obtained in two ways. Firstly, by analysing the questionnaire responses for the entire sample of respondents, and secondly, by using additional data to analyse on the basis of certain firm characteristics.

Leasing appears to be widely used or considered by respondents. Operating leases take precedence over finance leases for all asset types, with the exception of leased plant and machinery. Leasing does not appear to feature prominently when making

decisions to invest in an asset, rather it is considered as a source of finance once an asset acquisition decision has been made. The evidence from responses for the entire sample of respondents, in relation to factors influencing the decision to lease land and buildings and other assets, is summarised in Table 5.36 and Table 5.37 respectively.

In order to establish the relative importance of factors influencing the leasing decision, responses were classified based on the degree of evidence provided. The degree of evidence was established as the percentage of respondents who indicated that a factor was fairly to very important to them, or that they sometimes to always entered a lease agreement with a certain feature. If the percentage of respondents ranged between 0 to 20%, the evidence was taken to be strongly against a particular factor being important. A percentage between 21 to 40% was taken to be against, 41 to 60% was taken to be neutral, 61 to 80% was taken to be in favour, and 81 to 100% strongly in favour of a particular factor being important. The factors are grouped according to tax saving reasons, borrowing capacity and repayment reasons, risk sharing reasons, other financial/transactional reasons and other reasons/perceptions of leasing.

Tax considerations still appear to exert some influence over the leasing decision. Respondents appear to lease land and buildings because the lease rentals are a tax-deductible expense, when the asset itself does not qualify for capital tax allowances. Respondents also claim that other assets are leased because the ability to transfer capital tax allowances to the lessor is reflected in lower lease rental payments. Changes to the tax system which include the time apportionment of qualifying expenditure under finance leases in first year, and written down allowances restricted to 6% on qualifying expenditure on long-life assets, did not appear to influence the leasing decision.

In relation to borrowing capacity and repayment reasons, avoiding large capital outlay and conservation of cash flow appear most influential in the decision to lease both land and buildings and other assets. Leasing does not appear to be used with the intention of expanding overall debt type capacity or for flexible repayment reasons. The situation arising on default also does not appear to feature. The

Table 5.36: Survey evidence of factors influencing the decision to lease land and buildings

Qu	Importance of factors influencing the decision	Degree of Evidence[1]				
		Strongly Against	Against	Neutral	In Favour	Strongly In Favour
	Tax saving reasons					
C5(o)	Lease rentals tax deductible but capital allowances not available on assets purchased				✔	
C9(g)	Loss of grants/tax allowances if asset is leased			✔		
	Borrowing capacity and repayment reasons					
C5(a)	Expanding overall debt-type capacity		✔			
C5(b)	Avoiding large capital outlay					✔
C5(g)	Leasing provides total finance for an asset			✔		
C9(e)	Leasing does not provide 100% finance	✔				
C5(n)	Conservation of cash flow					✔
C5(h)	Flexibility of lease repayments		✔			
C5(j)	Lease covenants generally less restrictive			✔		
C5(k)	Leasing has minimal impact on measures used in current debt covenants			✔		
C5(m)	Leasing avoids capital expenditure controls	✔				
C5(t)	The legal consequences of default are less severe		✔			
C9(h)	Leased assets repossessed in event of default		✔			
C5(u)	Leasing provides finance on any scale			✔		
	Risk sharing reasons					
C5(p)	Leasing can reduce/eliminate risk of significant cost of transferring ownership at the end of a contract		✔			
C5(q)	Higher disposal value of leased property- lessor has better access to/knowledge of markets		✔			
C5(r)	Lease rentals contingent on sales/profits can reduce exposure to economic/business downturns		✔			
C5(s)	Lease agreements are flexible - drawn up to share asset risk and economic benefit between parties			✔		

(continued)

[1]Degree of evidence based on percentage of respondents who indicated they took particular action, they indicated something was fairly to very important (3, 4 or 5), or they agreed or strongly agreed with something (4 or 5)
0-20 % = strongly against, 21-40% = against, 41-60% = neutral, 61-80% = in favour, 81-100% = strongly in favour

Table 5.36 continued

Qu	Importance of factors influencing the decision	Degree of Evidence[1]				
		Strongly Against	Against	Neutral	In Favour	Strongly In Favour
	Risk sharing reasons continued					
C9(i)	Company assets specialised/specific making it expensive for lessor to bear risks of obsolescence and costs of purchase / disposal		✔			
C6	Use of lease agreements with rentals that vary with:					
	- Usage	✔				
	- Revenue/Profits	✔				
	- Prices			✔		
C7	Use of lease agreements with residual interest:					
	- Ownership transferred when lease contract ends	✔				
	- Lessee guarantees to pay compensation if residual value is below a certain amount	✔				
	- Lessee receives a surplus if residual value is above a certain amount	✔				
	- All or a share of disposal proceeds received by lessee on sale of leased asset	✔				
	Other financial/transactional reasons					
C5(e)	Leasing is easier to arrange from an administrative point of view		✔			
C5(f)	Leasing has the ability to offer a complete package (inc service & maintenance agreements)			✔		
C5(v)	Leasing is conveniently offered at asset point of sale		✔			
C5(d)	Rate of interest implicit in lease compared to borrowing to purchase				✔	
C5(i)	Incentives to lease given by lessor				✔	
C9(a)	Leasing is more expensive than other sources - important when deciding not to lease				✔	
	Other reasons / perceptions of leasing					
C5(l)	Operating leases not on balance sheet - no impact on ratios			✔		
C9(b)	Company preference for legal ownership			✔		
C9(c)	Key executives opposed to leasing		✔			
C9(d)	Leasing indicates a source of financial weakness		✔			
C9(f)	Control over asset is limited to duration of lease agreement - extension of lessor's discretion			✔		

[1]Degree of evidence based on percentage of respondents who indicated they took particular action, they indicated something was fairly to very important (3, 4 or 5), or they agreed or strongly agreed with something (4 or 5)
0-20 % = strongly against, 21-40% = against, 41-60% = neutral, 61-80% = in favour, 81-100% = strongly in favour

Table 5.37: Survey evidence of factors influencing the decision to lease other assets

Qu	Importance of factors influencing the decision	Degree of Evidence[1]				
		Strongly Against	Against	Neutral	In Favour	Strongly In Favour
	Tax saving reasons					
C5(o)	Lease rentals tax deductible but capital allowances not available on assets purchased		✔			
C5(w)	Transfer of capital allowances to lessor reflected in lower lease rental cost				✔	
C5(x)	Time apportionment of qualifying expenditure under finance leases in first year			✔		
C5(y)	Restriction to 6% WDA on qualifying expenditure on long-life assets		✔			
C9(g)	Loss of grants/tax allowances if asset is leased			✔		
	Borrowing capacity and repayment reasons					
C5(a)	Expanding overall debt-type capacity		✔			
C5(b)	Avoiding large capital outlay				✔	
C5(g)	Leasing provides total finance for an asset				✔	
C9(e)	Leasing does not provide 100% finance	✔				
C5(n)	Conservation of cash flow					✔
C5(h)	Flexibility of lease repayments		✔			
C5(j)	Lease covenants generally less restrictive			✔		
C5(k)	Leasing has minimal impact on measures used in current debt covenants			✔		
C5(m)	Leasing avoids capital expenditure controls	✔				
C5(t)	The legal consequences of default are less severe		✔			
C9(h)	Leased assets repossessed in event of default	✔				
C5(u)	Leasing provides finance on any scale				✔	
	Risk sharing reasons					
C5(p)	Leasing can reduce/eliminate risk of significant cost of transferring ownership at the end of a contract			✔		
C5(q)	Higher disposal value of leased property- lessor has better access to/knowledge of markets			✔		
C5(r)	Lease rentals contingent on sales/profits can reduce exposure to economic/business downturns		✔			
C5(s)	Lease agreements are flexible - drawn up to share asset risk and economic benefit between parties			✔		

(continued)

[1]Degree of evidence based on percentage of respondents who indicated they took particular action, they indicated something was fairly to very important (3, 4 or 5), or they agreed or strongly agreed with something (4 or 5)
0-20 % = strongly against, 21-40% = against, 41-60% = neutral, 61-80% = in favour, 81-100% = strongly in favour

Table 5.37 continued

Qu	Importance of factors influencing the decision	Degree of Evidence[1]				
		Strongly Against	Against	Neutral	In Favour	Strongly In Favour
	Risk sharing reasons continued					
C9(i)	Company assets specialised/specific making it expensive for lessor to bear risks of obsolescence and costs of purchase / disposal		✔			
C6	Use of lease agreements with rentals that vary with:					
	- Usage		✔			
	- Revenue/Profits	✔				
	- Prices	✔				
C7	Use of lease agreements with residual interest:					
	- Ownership transferred when lease contract ends				✔	
	- Lessee guarantees to pay compensation if residual value is below a certain amount		✔			
	- Lessee receives a surplus if residual value is above a certain amount		✔			
	- All or a share of disposal proceeds received by lessee on sale of leased asset		✔			
	Other financial/transactional reasons					
C5(e)	Leasing is easier to arrange from an administrative point of view			✔		
C5(f)	Leasing has the ability to offer a complete package (inc service & maintenance agreements)				✔	
C5(v)	Leasing is conveniently offered at asset point of sale			✔		
C5(d)	Rate of interest implicit in lease compared to borrowing to purchase					✔
C5(i)	Incentives to lease given by lessor		✔			
C9(a)	Leasing is more expensive than other sources - important when deciding not to lease					✔
	Other reasons / perceptions of leasing					
C5(l)	Operating leases not on balance sheet - no impact on ratios			✔		
C9(b)	Company preference for legal ownership			✔		
C9(c)	Key executives opposed to leasing	✔				
C9(d)	Leasing indicates a source of financial weakness	✔				
C9(f)	Control over asset is limited to duration of lease agreement - extension of lessor's discretion			✔		

[1]Degree of evidence based on percentage of respondents who indicated they took particular action, they indicated something was fairly to very important (3, 4 or 5), or they agreed or strongly agreed with something (4 or 5)
0-20 % = strongly against, 21-40% = against, 41-60% = neutral, 61-80% = in favour, 81-100% = strongly in favour

avoidance of capital expenditure controls appears to play no part whatsoever in the decision to lease. This finding coincides with similar evidence obtained for US firms (Mukherjee, 1991). The provision of 100% finance and the opportunity to obtain finance on any scale appear important in the decision to lease other assets.

The flexibility to shift the risks and rewards between parties to a lease agreement does not apparently feature significantly in the decision to lease. Respondents did not appear to attach any importance to risk-sharing reasons for leasing. Also, lease agreements with risk-sharing features did not appear to be widely employed by respondents. However, with the exception of operating leased land and buildings with rentals that vary in line with prices, the features investigated may be more commonly employed in finance lease agreements. As respondents predominantly use operating leases, the lack of use of such risk-sharing features may not be surprising.

The cost of leasing in relation to other sources appears to be important in the leasing decision. It appears more important when deciding to lease other assets than in the decision to lease land and buildings. However, cost may not be the deciding factor to lease land and buildings if access to a particular property is not available by any other means. Incentives given by the lessor in terms of rent-free periods appear influential in the decision to lease land and buildings, but do not appear to feature in relation to other assets.

Practical considerations such as administrative arrangements and availability at point of sale do not appear to be of particular importance. It has previously been thought that leasing might be used as a last resort by firms when all other finance sources have been exhausted. This appears to be nothing short of a myth in relation to financing decisions at the beginning of the twenty-first century. Respondents refuted that leasing is perceived as a source of financial weakness, and key executives in general do not appear to be opposed to its use.

In summary, avoiding large capital outlay and cash flow considerations appear of paramount importance in the decision to lease. The importance attached to the provision of 100% financing in leasing other assets could infer that leasing is

favoured for avoiding capital outlay to a greater extent than other forms of debt. As the flexibility of repayment in leasing arrangements does not appear important, cash flow considerations could be equally applicable to the decision to take on any form of debt. It appears that leasing will be used if the cost is favourable in relation to other sources of finance, and rejected if it is not. Other main advantages to leasing over other sources of finance appear to include:

- Tax deductible rental payments on leased assets not qualifying for capital allowances
- The ability to 'sell' capital allowances on qualifying asset expenditure to the lessor in exchange for lower rental payments
- The ability to obtain finance on any scale
- The opportunity to obtain a complete package, including the service and maintenance of leased assets

The findings obtained from the further analysis of responses, on the basis of size, industry, gearing and degree of operating lease use (from section 5.1, non-response bias test) are summarised in Table 5.38. The size of a firm and the level of gearing it operates with, do not appear to influence the use of leasing. However, industry classification is apparently influential. Firms operating in Information Technology, General Industries and Cyclical Services appear more likely to use or consider leasing. This perhaps reflects the nature of the assets employed in these industries. Assets employed in Information Technology are subject to rapid obsolescence, and assets employed in General Industries / Cyclical Services may be more standardised and thus conducive to being the subject of lease contracts.

The reasons for leasing do not appear constant across firm size. Small firms appear more concerned with qualitative factors such as avoiding large capital outlay, conservation of cash flow and availability on any scale. Large firms appear more concerned with quantitative factors – the cost. These findings in relation to firm size mirror Drury and Braund's (1990) findings of over a decade earlier. There is some evidence to suggest that cost is also of less importance to highly geared firm. They appear to be more concerned with the impact leasing has on restrictive covenants, and prefer legal ownership in relation to land and buildings.

Table 5.38: Summary of further analysis: Leasing Policy

Use of leasing	**More likely / Important** Firms operating in: Information Technology General Industries Cyclical Services	**Less likely / Important**
Importance of:		
Avoiding large capital outlay	Utility firms Small firms High operating lease users	Firms operating in Cyclical Services
Conservation of cash flow	Small firms	
Availability on any scale	Small firms	
Provision of total asset finance		Highly geared firms
Positive outcome to quantitative analysis	Large firms	
Cost of leasing	Utility firms Large firms	Firms operating in Cyclical Services High operating lease users
Legal ownership of land and buildings	Large firms Highly geared firms	
Limited duration of occupancy / control over leased land and buildings	Highly geared firms Firms operating in Non-Cyclical Services	Utility firms
Loss of grants/taxation allowances		Firms operating in Non-Cyclical Services
Higher disposal value of leased assets		Highly geared firms
Minimum impact on current restrictive covenants	Highly-geared firms	

In summary, certain firm characteristics appear to influence the importance attached to alternative advantages to leasing. However, this is not surprising given that firm characteristics influence the degree of benefit, which can be derived from these alternative advantages.

5.9: Follow-up interviews

Respondents were asked in Section D of the corporate financing and leasing decisions questionnaire if they would be willing to participate in an interview. The aim was to explore the issues raised in the questionnaire in more detail, and in light of the responses received. Although it was recognised that evidence from individual interviews could not be taken to generally apply across UK quoted industrial companies, it could potentially provide useful insights to assist in the interpretation of the questionnaire responses.

Of the 198 respondents to the questionnaire, 34 indicated that they would be willing to participate in an interview. E-mail appeared to be the preferred choice of medium by the majority of willing participants (Table 5.39).

Table 5.39: Respondents willing to be interviewed

	Number of respondents	Percentage of respondents
Interview by email	**18**	**9.09**
Interview by telephone	**13**	**6.57**
Interview by person	**3**	**1.51**
No Interview	**164**	**82.83**
Total	**198**	**100**

At the stage when follow-up interviews could be considered (after questionnaire responses had been thoroughly analysed), both time and financial resources were limited. It was envisaged that interviewing in person and by telephone could be both problematic and time consuming, owing to the punishing schedules the respondents appeared to have. This became apparent during the initial mailing of the questionnaire. The personal assistants of respondents frequently advised that the

questionnaire would not receive early attention as a consequence of their superiors 'not touching base' for a reasonable period of time in which to complete it. Thus, a decision was taken to pursue interview opportunities by email, on the assumption that respondents were likely to access their email, in or out of their office base.

On analysis of the total sample of respondents, several issues requiring further investigation were identified. The responses of the willing interview participants were then individually analysed to identify potential participants with whom an issue could be explored. In this way, the interview questions were personalised towards an individual's response, and not all participants received the same interview questions. Developing such tailored interviews in this manner was relatively time consuming. A decision was taken to conduct five email interviews initially, and proceed with the remainder on the basis of successful response. Although, respondents had indicated their willingness to be interviewed on completing the questionnaire, it was recognised that owing to the time lapse (one year on), this might not still be the case.

A summary of the interview questions forwarded to each of the five selected respondents is shown in Table 5.40. The interview questions comprised both capital structure and leasing policy issues. The questions mainly addressed:

- Why earnings and cash flow were considered important
- How restrictive covenants affected financing decisions
- Whether equity was issued as a last resort
- Why certain sources of finance were considered favourable to others
- Whether target levels of debt were internally or externally determined
- What was the perceived impact of bringing operating leases on balance sheet
- Whether respondents actually enter operating lease agreements for land and buildings with rentals that that *don't* vary in line with prices
- What was the perceived relationship between leasing and debt, and whether leasing has the potential to increase debt capacity
- Why some key executives were opposed to leasing
- Why was there a preference for legal ownership of assets

Table 5.40: Interview Questions

	Questions	Recipient
	Determinants of Capital Structure	
1	You indicated that ensuring long-term survivability of your company was a very important factor in choosing the appropriate amount of total debt. There are different aspects to survivability e.g. the ability to pay interest and make capital repayments, the retention of the confidence of equity investors, customers, suppliers, and the retention of competitive position in product markets. Do you place more importance on certain aspects of survivability than others and if so which aspects do you consider are most important?	Respondent 1 Respondent 2 Respondent 3 Respondent 4
2	You indicated that the volatility of your company's earnings and cash flows was a very important factor in choosing the appropriate amount of debt. Is this because fluctuations in earnings / cashflows dictate your requirement for debt, or because fluctuations impact on your ability to pay interest?	Respondent 1 Respondent 2 Respondent 3 Respondent 4 Respondent 5
3	You indicated that restrictive covenants imposed by debt providers were a very important factor in choosing the appropriate amount of debt. However you were unsure as to whether restrictive covenants might be suggested to a doubtful lender in the hopes of convincing the lender to grant a loan. Please could you provide further explanation of how restrictive covenants affect your financing decisions.	Respondent 1 Respondent 4
4	You strongly disagreed that issuing shares sends unfavourable signals concerning future long-term prospects, and you strongly disagreed to issuing shares when prices are high even though there is no present need in order to build up a long term fund cushion. You also indicated that your company would exhaust its use of internal reserves and straight debt before issuing ordinary shares. Does this mean you only issue shares as a last resort irrespective of the price, or are you not deterred from issuing shares when prices are high and you need finance, even if you could still take on debt?	Respondent 1
5	You strongly agreed that issuing shares sends unfavourable signals concerning future long-term prospects. However you adopted a neutral stance in relation to issuing shares when prices are high even though there is no present need in order to build up a long term fund cushion. You also indicated that your company would exhaust its use of internal reserves and straight debt before issuing ordinary shares. Does this mean you only issue shares as a last resort irrespective of the price, or are you not deterred from issuing shares when prices are high and you need finance, even if you could still take on debt?	Respondent 4
6	You indicated that operating leases were equally favoured to internal reserves and preferable to all other types of debt. Why is this the case?	Respondent 1
7	You indicated that ordinary shares were more preferable to internal reserves and straight debt. Why is this the case?	Respondent 2
8	You indicated that operating leases were preferable to finance leases. Why is this the case?	Respondent 4
9	You indicated that your use of straight debt would be exhausted before you issued shares. You also indicated that you have a flexible target of debt in relation to equity. As you also indicate that you maintain spare borrowing capacity, is this target an amount of debt which your company believes it derives most benefit, rather than an amount above which lenders are reluctant to grant loans?	Respondent 1 Respondent 3 (reasonably strict target) Respondent 4

Table 5.40 continued

10	You indicated that your use of straight debt would be exhausted before internal reserves. Please explain why you consider straight debt to be more favourable to internal reserves.	Respondent 3
11	You indicated that you maintain spare borrowing capacity for unplanned opportunities, however you would forgo an attractive new growth opportunity rather than deviate from existing capital structure. Please explain?	Respondent 1
12	You indicated that you maintain a reasonably strict capital structure, i.e. approximately constant proportions of debt and equity. However, you also strongly agreed, in general, to issuing shares when prices are high even though there is no present need to build up a long-term fund cushion. If shares were issued in these circumstances, the proportion of debt in relation to equity would change. Therefore, would debt also be issued to maintain target capital structure? If so, would there be a period of time in which actual capital structure differed from target capital structure?	Respondent 3

Leasing Policy

1	You indicated that the off-balance sheet nature of operating leases was not important in the decision to lease both land and buildings and other assets. Therefore, do you believe that new proposals to bring operating leases onto the balance sheet will have no major impact on your decision to lease? Do you think your operating leases will have no major impact on your accounting ratios or restrictive covenants? Do you think the UK market currently adequately adjusts for your operating leases in their assessment of equity risk?	Respondent 1 Respondent 4 and Respondent 5 (very important thus major impact)
2	You indicated that you currently use operating leases to obtain access to land and buildings. However, you indicated that you never enter agreements with rentals that vary in line with prices. Therefore, do your operating lease agreements for land and building have fixed rentals for the entire term. If so what is the length and nature of such agreements?	Respondent 1 Respondent 5
3	You indicated that 'some key executives are opposed to leasing' was very important in the decision not to lease other assets. Why are they opposed, and why was this factor not important in the decision to lease land and buildings?	Respondent 2
4	You indicated that operating leasing compliments borrowing and increases overall borrowing capacity. Do you believe that entering operating lease agreements has no impact on your ability to enter further debt agreements (i.e. no impact on borrowing capacity) or do you believe that operating leases have less impact compared to other forms of finance?	Respondent 3 Respondent 4 and Respondent 5 (finance leases)
5	You indicated that operating leasing has no bearing on company borrowing. Please explain why this is the case.	Respondent 5
6	You indicated that company preference for legal ownership was important in the decision to lease both land and buildings and other assets. Why is ownership important?	Respondent 3
7	You indicated that company preference for legal ownership was important in the decision to lease other assets but of little importance in the decision to lease land and buildings. Please explain why this is the case.	Respondent 4 Respondent 5

The interview questions were forwarded by email, with an accompanying message (Appendix 22), and a file containing the individual's original questionnaire responses. The message conveyed a thank-you for participating in the initial questionnaire, and reminded respondents of their offer to participate in an interview. Care was taken to stress that interview participation was select, and that the questions were personalised, with the aim of encouraging co-operation. The message also indicated that the collating and analysis of the original questionnaire responses had been a lengthy process, by way of an explanation of the time lapse between contact.

Unfortunately, a successful response to interview requests was not attained (Table 5.41). Two respondents failed to acknowledge receipt, despite a reminder, and two respondents declined to participate further.

Table 5.41: Response to follow-up interviews

Respondent	Response
1	"I was more than happy to assist with the first questionnaire. I do not wish to comment / be involved further"
2	"Sorry – Just can't respond for the time being – you'll just have to go on ahead without me"
3	Response to interview questions received
4	No response – despite reminder
5	No response – despite reminder

The interview questions along with the responses provided by the remaining respondent are shown in Table 5.42. The information obtained was not extensive. However, according to this respondent's suggestions, debt levels may neither be consciously determined internally according to balancing the costs/benefits of debt, nor externally imposed by lenders. A firms debt level may be determined according to the level it perceives as acceptable by the market. In addition, this respondent viewed operating leases as a substitute for debt, although he admitted that he thought operating leases have less impact than obligations recorded on-balance

Table 5.42: Interview responses from respondent 3

	Question	Response
	Determinants of Capital Structure	
1	You indicated that ensuring long-term survivability of your company was a very important factor in choosing the appropriate amount of total debt. There are different aspects to survivability e.g. the ability to pay interest and make capital repayments, the retention of the confidence of equity investors, customers, suppliers, and the retention of competitive position in product markets. Do you place more importance on certain aspects of survivability than others and if so which aspects do you consider are most important?	"Not particularly. All important"
2	You indicated that the volatility of your company's earnings and cash flows was a very important factor in choosing the appropriate amount of debt. Is this because fluctuations in earnings / cashflows dictate your requirement for debt, or because fluctuations impact on your ability to pay interest?	"Both"
9	You indicated that your use of straight debt would be exhausted before you issued shares. You also indicated that you have a flexible target of debt in relation to equity. As you also indicate that you maintain spare borrowing capacity, is this target an amount of debt which your company believes it derives most benefit, rather than an amount above which lenders are reluctant to grant loans?	"An issue, as a listed company, of our perception of acceptable levels in city eyes"
10	You indicated that your use of straight debt would be exhausted before internal reserves. Please explain why you consider straight debt to be more favourable to internal reserves.	"Cheaper cost of capital"
12	You indicated that you maintain a reasonably strict capital structure, i.e. approximately constant proportions of debt and equity. However, you also strongly agreed, in general, to issuing shares when prices are high even though there is no present need to build up a long-term fund cushion. If shares were issued in these circumstances, the proportion of debt in relation to equity would change. Therefore, would debt also be issued to maintain target capital structure? If so, would there be a period of time in which actual capital structure differed from target capital structure?	"Not necessarily - not for the sake of it. Only if economically viable expansion opportunities are available"
	Leasing Policy	
4	You indicated that operating leasing compliments borrowing and increases overall borrowing capacity. Do you believe that entering operating lease agreements has no impact on your ability to enter further debt agreements (i.e. no impact on borrowing capacity) or do you believe that operating leases have less impact compared to other forms of finance?	"Not sure. We don't go the operating lease route as it is not appropriate for our business for operational reasons. Therefore we do not have any direct experience. However, I percieve that they would have an impact - but possibly not as great as on-balance sheet funding"
6	You indicated that company preference for legal ownership was important in the decision to lease both land and buildings and other assets. Why is ownership important?	"Operational flexibility. Security of tenure (for land / property)"

sheet. If this opinion were widespread, the future use of operating leases, in the event of the introduction of new accounting proposals, might be questioned.

At this stage, a decision was taken to abandon the follow-up interviews. However, it is recognised that the interview questions highlight the need for further research, and thus the option to contact other respondents in the future may subsequently be exercised.

Chapter 6: Summary and conclusions – Corporate financing and leasing decisions

The aim of the present study was to investigate the determinants of corporate capital structure and leasing policy in UK firms, in response to previous conflicting, limiting and dated evidence.

Leasing is a significant source of finance, especially off-balance sheet operating leases, and recent evidence appears to suggest it is at least a partial substitute for other forms of debt (Beattie et al., 2000). However, it is the use of finance leases that dominates the literature, and then they are generally considered in isolation from overall financing decisions. The present study redresses the situation by undertaking a comprehensive investigation combining both the corporate financing and leasing decision-making processes of UK firms in today's global business environment.

A questionnaire survey was mailed to the finance directors of 831 UK quoted industrial companies in the early summer of 2000. A survey approach was adopted as it provided the scope to address a full spectrum of issues arising from existing literature, and the opportunity to establish their relative importance. The instrument comprised 13 pages of questions divided in to four sections. Mainly close-ended questions were used to request information concerning an individual company's capital structure decision-making process, leasing policy, and general attitudes to the determinants of capital structure. The static trade-off, agency, pecking order, stakeholder, strategy and corporate control theories formed a framework in relation to capital structure determinants. Information sought in relation to leasing policy was based on a framework of tax savings, borrowing capacity and repayment, risk sharing and other financial / transactional reasons for leasing.

The response received was favourable given the length and complexity of the survey instrument, and the general decline in survey participation by UK companies in recent years. A response rate of 23% was achieved in relation to completed questionnaires (198 usable responses), a further 27% declined to participate, while 50% 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 leasing use appeared to suggest that non-response bias was not an issue.

Questionnaire responses were analysed for the entire sample of respondents, and on the basis of certain key firm characteristics. The main issues under investigation included whether debt levels are optimised by balancing costs and benefits (static trade-off), or whether they are the products of investment and dividend needs, by following a hierarchy of financial sources (pecking order). The relative importance of factors in the decision to issue debt was considered in addition to how firm characteristics and circumstances relate to these factors. Factors affecting the decision to lease, including both features mitigating the costs and enhancing the benefits in relation to non-leasing debt, and more practical considerations were considered.

If debt levels are optimised as suggested in the static trade-off theory, the existence of a target amount of debt in relation to equity might be expected. However, this target would only be static, if the costs and benefits of issuing debt remained static over time. In the pecking order theory, debt ratios might be expected to fluctuate, in response to changes in investment opportunities and dividend needs. However, in certain firms, investment opportunities and dividend needs might remain fairly static over time, so even 'pecking order' firms might have static debt ratios. Irrespective, 'pecking order' firms might be expected to maintain spare borrowing capacity in order to respond to changes.

Questionnaire responses were strongly against the existence of a strict/static target capital structure, and of a trade-off between costs and benefits to determine an optimum level of debt. The evidence in relation to maintaining spare debt capacity was neutral. The evidence was strongly in favour of firms being flexible in deviating from existing capital structures, akin with the pecking order theory. However, in the pecking order firms are expected to follow a hierarchy of sources, from internal reserves through debt to equity. The issue of equity is avoided for as long as possible to prevent the signalling of information to investors, resulting in a decrease in firm value. The questionnaire responses were neutral in relation to firms progressing through a hierarchy of sources. However, the importance of the

volatility of a company's earnings / cash flows was clearly evident when choosing an appropriate amount of debt. This could infer that debt requirements are influenced by internally generated funds, although internal reserves may not always be favourable to debt. There was strong evidence to suggest that the market response to new issues of debt and equity were indeed important. There appears to be a strong belief in market inefficiency, and in the issue of debt when equity is undervalued. Debt appears to be viewed as sending favourable signals to the market place, without causing share prices to decline. However, equity was not thought to send unfavourable market signals, and would be issued if share prices were high.

At the outset, the process of determining debt levels thus appears to reflect the pecking order suggestions. Investment opportunities and dividend payout appear more likely to influence debt levels, than an optimum level of debt finance being selected. However, the level of debt does not appear to be the result of progressing through a strict hierarchy of sources, and equity does not appear to be only issued as a last resort. The level of debt appears more likely to be the product of circumstances, it depends on the benefits and costs, associated with all sources of finance, at the time additional finance is required. This leads to the next issue, the benefits and costs likely to be considered, and their relative importance.

The factors considered most important in the decision to issue debt appear to be agency costs, the current market value of equity, and the financial distress potential to debt. Questionnaire responses provided strong evidence in relation to the importance of restrictive covenants imposed by debt holders. It was apparent that firms would expand their use of debt in the absence of restrictive covenants. Debt was more likely to be issued if equity was undervalued by the market, and less likely if share prices were high. Although the evidence was neutral in relation to the explicit importance of bankruptcy/financial distress, it appeared to implicitly feature given the importance attached to ensuring long-term survivability, and the degree and volatility of projected cash flow / earnings.

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 whether other non-taxable deductions are available to individual firms. According to Miller

(1977), the tax benefit derived from debt depends not only on corporate taxes, but also on the personal taxes facing investors. However, personal taxes do not appear to feature in the decision to issue debt. This is perhaps not surprising given that personal taxes vary across different investors, and thus in reality the optimum tax benefit from debt could be very difficult to determine. Debt may also be issued to avoid the dilution of existing shareholders' claims or voting proportions. Equity does not appear to be favoured over debt with the intention of diluting the holdings of certain shareholders. However, the likelihood of respondents admitting to what could be considered a somewhat 'unethical' practice is debatable. The evidence in relation to the use of debt to ensure a large proportion of cash flow is committed to interest payments as a disciplinary control on management was neutral. Again, respondents may have been reluctant to admit to such action. Alternatively, other controls to promote goal congruence between shareholders and managers might already be in place. Indeed, 96% of responding firms indicated that they operated management incentive schemes.

Questionnaire responses were further analysed on the basis of firm size, industry classification, gearing level and corporate strategy. There is some evidence to suggest that individual firm characteristics and circumstances influence corporate financing decisions. Although control considerations featured in the use of debt, the evidence was neutral in respect of using debt to prevent corporate take-overs. However, these findings may merely indicate that many respondents were not unduly threatened by take-overs. This argument is substantiated by the fact that preventing take-overs was more important to firms adopting a cost leadership strategy who are likely take-over candidates in a bid to end price wars. It was considered much less important by firms competing in terms of product differentiation.

In support of the stakeholder theory, the evidence was strongly in favour of the importance attached to ensuring customers/suppliers are not worried about company survival. Firms competing in terms of cost leadership and experiencing no expansion, or expansion by integration, appear to be conducive to high levels of debt. For firms competing in terms of unique product strategy or growth by diversification, the opposite is true. In terms of competitive strategy, findings

support theoretical suggestions that firms adopting a cost leadership strategy provide standard products/services using tangible and flexible assets, and consequently have a lower potential for financial distress. The opposite is true for firms competing on a unique product basis. However, in relation to growth/expansion strategy, findings contradict prior evidence, which suggests that high levels are associated with the highest levels of diversification (Barton and Gordon, 1988; Lowe, Naughton and Taylor, 1994). Diversification spreads operating risk and thus reduces the potential for financial distress. However, the present findings might be indicative of the increased co-ordination and information processing associated with integration, which in turn requires to be financed. Also, integration could be considered less risky, as an element of existing experience and knowledge would apply.

It is hardly surprising that firms competing in terms of cost leadership appear to place more importance on the tax advantages of interest deductions and level of interest rates. Cost is the priority in this competitive approach. Further, it would be expected that highly geared firms attach more importance to projected cash flow / earnings and restrictive covenants in the decision to issue additional debt. They are already committed to a level of interest and repayment, and are more likely to be in the position when breaching restrictive covenants is an issue. Large firms appear to attach more importance to the tax advantage of interest deductions, but then they are likely to be paying substantial amounts of tax. The importance attached to projected cash flows / earnings, and ensuring customers / suppliers aren't worried about company survival appears to be related to industry classification. With the exception of Information Technology, the broad industry classifications used make it difficult to interpret the findings. Firms operating in Information Technology appear less concerned with projected cash flow / earnings, which is not surprising given the significant earnings these types of firms have reported in recent years. However, ensuring that customers / suppliers are not worried about survival is important given the after service / maintenance requirements of IT products, and the likelihood of failure of firms which don't keep abreast of evolving technology.

There is some tentative evidence to suggest that a firm's characteristics or circumstances might influence the process of determining debt levels, in addition to

factors affecting the choice of debt. Overall, the evidence was against the existence of target capital structure, and neutral in respect of following a hierarchy of sources and maintaining spare debt capacity. However, firm size, industry classification, corporate strategy and gearing levels appear to influence the maintenance of target capital structure and spare debt capacity. Highly geared firms also appear more likely to follow a hierarchy of sources. The true extent to which firms with certain characteristics maintain a target capital structure, whilst others maintain spare debt capacity and follow a hierarchy of sources, requires further investigation. Although beyond the scope of the present study, a detailed analysis / comparison of individual firms following these alternative processes, could prove insightful.

Questionnaire responses reconfirmed the significance of leasing as a source of finance. In addition, the majority of respondents appear to recognise fixed finance and operating lease obligations when measuring financial gearing, further substantiating the view that lease and debt finance are considered substitutes. For respondents following a hierarchy of financial sources, internal reserves and straight debt were ranked in preference to leasing. However, the difference in preference between finance leases, operating leases and ordinary shares was not found to be statistically significant. This is surprising given that operating leases appeared to take precedence over finance leases in the financing of all asset types, with the exception of leased plant and machinery. The general approach to the leasing decision was investigated. Findings appear to suggest that, more often than not, the decision to lease is a result of favourable comparisons with alternative sources of finance, the most popular being bank borrowing.

The importance of factors in the decision to lease land and buildings and other assets were investigated separately. The factors considered most important in the decision to lease land and buildings appear to be avoiding large capital outlay and conservation of cash flow. Importance also appears to be attached to lease rentals being tax deductible when capital allowances are not available on the asset purchased. It appears that leasing may be chosen if it compares favourably to other sources of borrowing in terms of interest rates, and/or incentives such as rent-free periods extended by the lessor. There is strong evidence to refute the suggestion that land and buildings are leased to avoid capital expenditure controls. However, this is

not surprising given that the acquisition of land and buildings leased or otherwise, is a high profile decision. Risk sharing reasons do not appear to feature in the leasing of land and buildings, nor practical considerations such as the application process and availability. The evidence was neutral in relation to leasing being favoured for offering a complete package, providing finance on any scale and minimising agency costs. Comments received by respondents also indicated that land and buildings might be leased even though legal ownership might be preferred. Access to a particular property may not be available by any other means. This could be the typical situation facing large retail firms when obtaining access to outlets in prime locations.

The conservation of cash flow and cost of leasing in relation to borrowing appear most important in the decision to lease other assets. Respondents also appear to lease other assets because the ability to transfer capital tax allowances to the lessor is reflected in lower rental payments. Avoiding large capital outlay, the provision of total financing on any scale, as well as the inclusion of service and maintenance packages, also appear to be important in the leasing of other assets. The evidence appears to suggest that the consequences of default and flexible repayment are not important in the decision to lease other assets. The evidence was neutral in relation to leasing being favoured for minimising agency costs, risk sharing reasons and practical considerations. However the use of risk sharing features in lease agreements was not apparently widespread among respondents. Although leasing appears to be predominant in certain industries which might reflect the nature of assets employed. Firms operating in Information Technology, General Industries and Cyclical Services appear more likely to use or consider leasing. The assets employed in IT are subject to rapid obsolescence, and assets employed in General Industries and Cyclical Services may be more standardised and thus more conducive to being the subject of lease contracts.

In summary, avoiding large capital outlay and cash flow considerations appear of paramount importance in the decision to lease all asset types. As the flexibility of repayment in leasing arrangements does not appear important, cash flow considerations could be equally applicable to the decision to take on any form of debt. It appears that leasing will be used if the cost is favourable in relation to other

sources of finance, and rejected if it is not. Other advantages to leasing in comparison to other sources of finance include tax benefits, availability to finance on any scale and the opportunity to obtain service and maintenance packages. The importance attached to these advantages likely depends on individual circumstances, and is not apparently consistent across firm size. Small firms appear more concerned with qualitative factors such as avoiding large capital outlay, conservation of cash flow and availability on any scale. Large firms appear more concerned with cost. These findings are consistent with the earlier findings of Drury and Braund (1990). The decision to lease land and buildings may not always be through preference but a necessity in the acquisition of certain property.

The present study contributes a comprehensive analysis of the corporate financing and leasing decisions of UK quoted industrial companies. It has important implications for the capital structure debate. Firms do not appear to exhibit the static trade-off predictions of adopting an optimal capital structure based on balancing the costs and benefits of issuing debt. However, the pecking order suggestion of following a strict hierarchy of sources also appears unfounded. Equity does not appear to be issued as a last resort. Findings are consistent with the conflicts identified in prior research, by suggesting that neither the static trade-off nor the pecking order theories exist in its purest form. Prior research has produced supporting evidence for both of these theories of capital structure. However, this is hardly surprising given that the alternative theories only appear to be mutually exclusive at the outset.

Myers (1984) in his reconciliation of capital structure theory and prior evidence suggests a modified pecking order, in which investment and dividend payout dictate the need for external finance, and debt is internally rather than externally constrained. If debt is internally constrained, an assessment of the benefits and costs of all sources of finance appears necessary. Firms might, therefore, be aware of a level at which the perceived cost of issuing additional debt outweighs the benefits. In this context firms might appear to have a maximum level of debt in mind. However, operating at a target level of debt depends on investment and dividend requirements. Adopting a target capital structure could infer that investment and dividend needs cause firms to come close to exceeding their maximum debt levels.

Firms with less requirement for external finance may take on debt as and when required, secure in the knowledge that they are in a position when the benefits far outweigh the costs, akin with following a hierarchy of financial sources.

The findings in the present study can be reconciled to a modified pecking order. It offers an explanation of why approximately 52% of respondents indicated that they operate with some degree of target capital structure (strict/flexible), even though debt levels appear to be the product of investment and dividend needs. Further, company senior management appear to be the most important influence in setting target capital structures, inferring that debt levels are indeed internally constrained.

The findings of the present study 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. Although beyond the scope of this thesis, the opportunity exists to analyse the capital structure of responding companies in relation to adopting a target capital structure and following a hierarchy of sources.

In reality, debt levels, including lease levels, appear to be the product of circumstances. They are determined in relation to 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 thus complex and multidimensional. If some or all of these dimensions change, or decision-makers perceive a change, debt ratios are likely to fluctuate over time, else they may appear static. This observation has important implications for future research. It highlights the difficulty in analysing corporate financing and leasing decisions in general, when they are essentially situation specific. Future research may thus benefit from studying financing decisions in context, by adopting, for example, an individual case study or experimental approach.

The present study has identified the costs and benefits that appear most important in relation to debt and leasing. This provides a focus for future research, in terms of

establishing the contexts in which these costs and benefits predominantly feature. The existence of neutral evidence in relation to the agency costs of leasing, and risk sharing reasons for leasing other assets, provides the opportunity for further investigation. Lenders may provide useful insight into the use of restrictive covenants and their impact in relation to leasing. Further, providers of lease finance are in the best position to assess what firms require from leasing contracts. They are in business to sell such contracts, it is in their interests to know the features which best meet specific requirements.

The present study has confirmed the significance of leasing, both off and on-balance sheet, and its position as part of the overall corporate financing decision. These findings cast doubt, in relation to both prior capital structure and leasing research, in which significant leasing obligations have been ignored. The conflicting evidence arising from prior studies may well be resolved by the future incorporation of leasing and debt obligations in regression-based studies.

In short, the present study documents the modern day corporate financing and leasing decisions of UK firms. It provides current and comprehensive coverage in response to previous limiting and dated evidence. It offers an explanation in relation to prior conflicting evidence by establishing that corporate financing and leasing is a complex and multidimensional decision. It provides evidence to suggest that the static trade-off and pecking order theories are not entirely mutually exclusive. Future research should focus on a reconciliation of the two. The present study does not profess to provide an exhaustive account of the determinants of corporate capital structure and leasing policy in UK firms. However, it provide a clear starting point on which future research can build, as well as highlighting areas of immediate focus.