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AN INVESTIGATION INTO ASPECTS OF THE AUDIT FUNCTION

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By

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TABLE OF CONTENTS

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LIST OF ILLUSTRATIONS

LIST OF TABLES

ABSTRACT

The accounting and auditing literature is virtually devoid of analytical or empirical analyses of the costs and benefits of the audit function. The benefits are vaguely articulated and it is usually asserted that they exceed costs. This study is concerned with the form in which the benefits or returns associated with the performance of an audit - in particular, the release of an audit report - manifest themselves. This study is further restricted to an analysis of, and the presentation of empirical evidence regarding, just one possible form in which such returns might arise - as information.

The presumption that the release of an audit report is an information generating event has long prevailed. However, the debate as to whether or not the audit report *per se* conveys information is essentially an empirical question. At a minimum it would seem to require that we be able to demonstrate that users' responses to financial statements containing unqualified audit reports are different from those which would have occurred had those financial statements been unaudited. It is difficult to see how such a demonstration could take place. Consequently, the emphasis in this study is directed toward qualified audit reports - reports which are fewer in number and possessed of potentially more significant information regarding the present condition and past performance of firms.

Support for the view that qualified audit reports convey information is inherent in the familiar arguments about the reticence of auditors to render qualified audit reports. These arguments are based on the assumption that the information contained in such reports might have serious, even dangerous, consequences for the shareholders of client companies. For example, qualification is frequently assumed to have an adverse effect on the price of the company's outstanding shares. Further, it has often been pointed out that to qualify, disclaim/deny, or express an adverse opinion on the grounds that an enterprise is in financial difficulty may simply add to the difficulty and so hasten its demise. In other words, the auditor's opinion becomes a self-fulfilling prophecy.

There is a presumption that qualified audit reports are possessed of considerable information content. Information is communicated for the purpose of influencing user expectations and hence, facilitating decision making. The shareholder's major decision is that of whether to buy or sell a particular corporation's shares. Any such decision will be based on his expectations regarding the future profitability and relative risk of the firm. Should a qualified audit report convey information which results in revised assessments regarding either, or both, of these factors then we would expect to observe some sort of shareholder response to that information. In terms of the shareholder's 'buy or sell' decision, such a response should be observable, given any of the 'dividend or earnings capitalization' models, in the behaviour of current market prices.

Thus, changes in share prices are utilized as a surrogate for changes in investor expectations and it becomes possible to test whether qualified audit reports convey information by analysing companies' share price behaviour around the date of release of such qualifications. However, it would be naive to assume that all qualified audit reports necessarily convey 'bad' news to shareholders (i.e. have an adverse effect on share price). Indeed, the existence of a set of graded opinions implies that the message or information to be conveyed by each differs. Further, the form and content of the professional rules, and the manner in which they are administered, fosters a distinction between 'procedural' or 'technical' qualifications and those that might be regarded as having 'substantive' implications for the value of the firm. Quite simply, audit qualifications are not homogeneous and some appear more likely to convey information, or to be associated with information generating events, than others.

Within the context of the Sharpe-Lintner Capital Asset Pricing Model and adopting the familiar 'market model', the share price reaction to audit qualifications over the period 1964-74 is studied. The final sample comprises some 227 qualifications on 199 companies and was selected from a data file comprising an almost exhaustive sample of the most important qualifications occurring on companies listed with the Sydney Stock Exchange at any time during the period 1961-74.

The empirical evidence presented here suggests that audit qualifications are, on average, associated with a decline in the value of corporate securities. Further, the stock market's response to audit qualifications

appears to be relatively efficient. This conclusion is based on a number of observations. First, most of the price adjustment to the qualification occurs in the weeks preceding its release - apparently in response to a more timely cue - the delay in the preliminary profit report occassioned by the qualification. Second, there are in general no opportunities for abnormal returns after the release of the qualification. Third, the price adjustment appears to be conditional on the subject matter of the qualification. In particular, relatively technical or procedural qualifications (such as those for non-compliance with DS5/302, Depreciation, Depletion and Amortization of Fixed Assets) do not appear to have any effect on share prices.

CHAPTER 1

INTRODUCTION

1.1 Auditing: An Integral Component of the Financial Disclosure Framework

Accounting information is part of a wide range of information about companies which is available to the securities market. Audited accounting reports are a source of financial information regarding the present position and past performance of individual firms within these markets.

The rules governing financial disclosure in Australia, and in particular the presentation of audited financial information, derive principally from the (Uniform) Companies Act, 1961-73. Section 166 of this Act requires that within one month of incorporation every company shall appoint an auditor. Section 167 of the act further requires that the auditor shall report on, amongst other things, the accounts required by the act to be laid before the company in general meeting. The matters which an auditor must specifically state in his report and the matters upon which he must form an opinion, but which need only be stated if there is a deficiency, failure or shortcoming, are set out in subsections (2) and (3) respectively of this section. However, the over-riding consideration specified in section 167 subsection (1) is that the accounts so presented shall give a true and fair view. The central importance of the true and fair requirement for the preparation and presentation of periodic accounts is well documented.[1] It is the cornerstone of the disclosure provisions of the act.

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1. Birkett (1968) summarizes the literature in this respect.

1.2 Associated Costs

The requirement to audit imposes costs, both direct and indirect, on the company (and hence its shareholders) and society. For example, a substantial direct cost is imposed on company shareholders through reduced profits - the 'out of pocket' costs required to meet the audit fee. Frishkoff (1974) argues that consumers may confront higher prices as a result. Other 'side effects' also exist. To illustrate, consider the disruption of normal office routine, the opportunity cost of company time spent liasing with or assisting the auditor, the costs associated with designing accounting systems that meet pre-specified audit requirements (e.g. building an audit trail into a computerized system) and the tendency of many personnel to regard the audit as a test of their personal integrity and efficiency. Consider also those costs which appear unlikely to be born directly by either the company or its consumers. Dyer and McHugh (1975) report that the audit function delays the release of the annual accounts by an average of 44 days.[2] While the effect of this delay on the usefulness and hence the value of the reported accounting numbers is difficult to ascertain, it is frequently asserted that the value of a financial statement varies inversely with the time taken to prepare it.[3] Consider too the costs of maintaining and policing the legislation necessary to regulate the practice of auditing; and those of allowing the auditing profession to remain, in

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2. Additional evidence on this aspect of the side effects associated with the audit function is presented in Chapter 6.

3. This premise is implicit in much of the literature on timeliness and is often made explicitly, e.g. Manley (1966), Kenley (1972) and Staubus (1976).

most other respects, self-regulating. Pitts (1973) and Pichler (1974) consider the effects of self-regulation and conclude that it effectively increases the cost of the services rendered. As there exists no qualitative difference between these 'indirect or side effects' and what might be called 'direct or primary effects' (Demsetz, 1964), each such effect is as real an economic cost as the audit fee itself.

1.3 Statement of the Problem

The audit function, due principally to the growth of the modern corporation, highly sophisticated securities markets and the attendant divorce of ownership from management, has become an integral part of a complex institutional and regulatory framework which governs both the behaviour of corporations in markets and the reporting thereon. Non-trivial costs are involved in the discharge of the audit function. Yet we have little rigorous theoretical or empirical analysis of the audit reporting function in a resource allocation framework. For example, questions of the following sort, for which we have no obvious answers, immediately arise. In what form do the returns (if any) which might be expected to accrue from the discharge of the audit function accrue, and to whom? This thesis addresses (though in a limited manner only) such questions.

One way of determining who the audit is designed to benefit might be to establish who bears the costs of same. We would not, for example, expect rational individuals to incur these costs without any expectation of a return. We have already observed that shareholders appear to bear

sizeable 'out of pocket' costs for the audit. However recent developments in the theory of agency[4] suggest that management might voluntarily bear some of the costs of providing audited financial information. Suppose for example equity or bond holders find it worthwhile to produce detailed financial statements as a means of monitoring management. Then, as Jensen and Meckling (1976, p.338) argue:

> If the manager himself can produce such information at lower costs than they (perhaps because he is already collecting much of the data for his own internal decision making purposes), it would pay him to agree in advance to incur the cost of providing such reports and to have their accuracy testified to by an independent outside auditor.

Further it is likely that society at large bears part of the cost of maintaining and policing the legislative provisions with respect to financial disclosure and reporting. Another way of determining who the audit is designed to benefit might be to survey the auditing literature. In this literature we see clear recognition of the legal responsibility auditors bear to shareholders - they are appointed by and accountable to them. Yet we also see considerable discussion regarding recent attempts (some successful) to make auditors, in certain circumstances, accountable

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4. There is a growing economic literature concerning the agency relationship. Much of it addresses the construction of incentives for agents (managers) to act in the principal's (shareholders) best interests. Jensen and Meckling (1976) analyze the incentives of principals and agents and derive hypotheses about the contractual arrangements one would expect to observe in equilibrium. They suggest that audited financial statements are part of an equilibrium result, and fulfil the function of reducing agency costs. Watts (1978) analyses agency costs and provides predictions regarding the content, as well as the existence, of financial statements.

to third parties; and we frequently see explicit recognition of the fact that others - particularly management and creditors but more generally, society - can also be expected to benefit from the effective discharge of the audit function.

Answers to questions regarding the benefits which might be expected to accrue from the effective discharge of the audit function are equally elusive. Perhaps the most frequently asserted benefit of the audit report is that it lends credibility to the financial statements. Exactly what this means is not clear, but the statement usually appears in discussions where a relationship between the efficiency of capital markets and audit reporting is asserted. For example Anderson, Giese and Booker (1970) argue that the audit of a business enterprise is a human activity explained in part by the fact that: (p.524)

> An orderly capital market, which efficiently allocates the nation's resources, depends on reliable accounting measurements (financial statements).

This premise is apparently the *raison d'être* for both accounting and auditing in our present socio-economic environment since (p.525):

> ... attestation of the reliability of management's representations of their operations is an essential link in this process of resource allocation.

Birkett and Walker (1974 p.172) ascribe a similar role (i.e. quality control) to the audit report:

> Public assurances of the quality of accounting information are provided by audit reports. Assurances of the quality of audit reports are given in turn, by the professionalism of accountants, and by legislative requirements for the registration of auditors. Statutory rules require auditors to attest to the 'truth and fairness' of published accounting reports, or indicate what reservations or doubts they have about their quality. If accounting reports are accompanied by an unqualified audit report, then, *prima facie*, they contain information of high quality; otherwise some assessment of the reliability of the accounting data can be formed after an examination of the auditor's qualifications.

If 'quality control' is the role of the audit report then the benefits would appear to take the form of better decisions (than those made in the absence of audit reports) by both shareholders and creditors; that is, the avoidance of misinformed choices and ultimately a more efficient resource allocation. On a lesser scale, still other benefits have been ascribed to the audit report. We have already observed that audited financial statements can play a significant role in reducing agency costs and there are of course the obvious benefits to client firms; particularly in the form of internal control recommendations and concomitant cost savings, reduced risk of defalcation, etc. Indeed Frishkoff (1974, p.5) goes so far as to suggest that these are amongst the major benefits of the audit.

To summarize, we have much in the way of assertion, little in the way of concrete knowledge, as to what form the benefits (if any) of the audit may take - and indeed, even who receives them.

1.4 Scope of this Study

Whilst it seems likely that each of the groups considered above do derive some benefit from the audit (since each bears part of the costs), for the purposes of this study the beneficiaries of concern are identified as shareholders since, under the existing institutional requirements, it is this group to whom the ultimate outcome of the audit, the audit opinion or report, is directed.

This study is concerned principally with the form in which the returns associated with the performance of an audit - in particular the release of an audit report - might be expected to accrue. The study is further constrained to presenting empirical evidence on just one possible form in which this return might arise - as information. There is considerable currency for this view in the literature. The objective of this study, quite simply, is to determine whether or not audit reports convey information to shareholders. The nature of this information and the methodology which will allow us to determine whether or not audit reports do convey information are considered in the following chapters.

CHAPTER 2

INFORMATION CONTENT HYPOTHESES

2.1 Information and the Audit Report

The central importance of the 'true and fair' requirement of the (Uniform) Companies Act has already been emphasised. The role of the auditor relative to these provisions has been variously interpreted, contemporary definitions indicating that its function is one of information provision. Birkett (1967, p.165) argues:

> Historical analysis of the antecedants of auditing and present statements of the operations of auditing reveal also that it has always been designed to produce information outputs (audit reports) by processing (verification) environmental inputs (financial statements, observations) according to rule (accounting standards). Thus, auditing may be categorized as an information system.

Examples of this view proliferate. The Institute of Chartered Accountants in Australia in its Statement of Auditing Practice, CP3/357 'Auditor's Reports' adopts as a fundamental premise the view that it is:

> The duty of the auditor to convey information, not merely to arouse enquiry....[1]

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1. This view has been established in the courts since 1895. In re London General Bank (No.2) [1895], 2 Ch.673 it was held that:

> ... an auditor who gives shareholders means of information instead of information respecting a company's financial position does so at his peril and runs the very serious risk of being held judicially to have failed to discharge his duty.

This premise also appears explicitly in both the American Institute of Certified Public Accountant's *Codification of Statements on Auditing Standards* (1976) and The Institute of Chartered Accountants in England and Wales *Statements on Auditing* (1975).

The professional journals and auditing texts also reflect this view. Reference to almost any discussion of auditing lends support to its interpretation as a discipline concerned with the communication of information. The following examples are offered as representative.

> The auditor of a company has a difficult and often, a delicate task to perform. Apart from the application of the established techniques and procedures of auditing, and the exercise of judgment in the interpretation of information he examines, he has the responsibility of conveying information - and not merely the means of seeking information - to the members of a company.
>
> (Goldberg, 1970)

> The over-riding message is that today the auditors' report is no mere formality, and it is essential that it should inform.
>
> (Woolf, 1976)

> Audit opinions are intended to communicate information.
>
> (Renshall, 1978)

> Ideally, an independent check of the balances of assets and equities would eliminate the possibility of concealment or manipulation, even if innocent or with the best of intentions; for the object of audited accounts is to inform, not to conceal.
>
> (Chambers, 1973)

So prevalent is this view that researchers and authors seldom address the question of whether or not audit reports convey information, but

rather examine such ancillary questions as (Knoll, 1976):

> What other information, apart from that contained in the auditor's report, is available to users?
>
> How far is the information communicated by the auditor's report intelligible to users?
>
> How far is the information contained in the auditor's report relevant for the purpose of decision-making by users?

The presumption that the release of an audit report is an information generating event has long prevailed, although it has not been without its critics. Such criticisms are well-documented. Since the early 1830's the literature and, in particular, the financial press have been replete with criticisms of the following nature:[2]

> The question is - What is worth, and what, therefore, the use of an auditorial certificate in its various forms as it is now commonly given.... The certificate is worth next to nothing, and this being so, it is a delusion and a snare.

Approximately one hundred years later it is interesting to note that similar criticisms still arise.[3] Following interviews and discussions with members of the Melbourne Stock Exchange Clift (1973, p.8) reports that:

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2. Quoted in Brief (1975) this criticism appeared in an editorial in a magazine called *Vanity Fair* in 1883.

3. Staunton (1977) provides a comprehensive summary of the criticisms of auditors that have appeared in the Australian financial press since the mid-1960's. Predominant amongst these were those regarding the inability of, or even the lack of desire amongst, auditors to effectively communicate information regarding the present condition of firms. A less exhaustive, though equally informative survey covering the early 1960's is contained in Irish (1963).

> The comments discussed indicate that audit reports in their present form are of little value to a substantial section of that community.

The general and consistent thrust of such criticism appears to be, quite simply, that audit reports do not convey adequate information. Kettle (1928, p.351) cites the following example:

> ... from time to time shareholders complain that auditors are insufficiently informative in their reports. There is ground for this complaint.

The debate as to whether or not the audit report conveys information is essentially an empirical question. Unfortunately the proposition that audit reports *per se* convey information is difficult to test. At a minimum it would seem to require that we be able to demonstrate that users' responses to financial statements containing unqualified (clean) audit reports are different from those which would have occurred had those financial statements been unaudited. It is difficult to see how such a demonstration could take place. Consequently, in the following section emphasis is directed to qualified audit reports - reports which are fewer in number and possessed (it will be argued) of potentially more significant information regarding the present condition and past performance of firms.

2.2 Information and the Qualified Audit Report

The auditor, in the conduct of his audit, is obliged to comply with certain general standards laid down in the Act and various performance standards set out by the professional accounting bodies. If at the

completion of his audit he is unable to confirm compliance with the applicable statutory provisions or the relevant professional standards, he is obliged to qualify his report. In the latter instance, qualification will only occur if the amounts at issue are material.

CP3/357 (paragraph 17) requires that before issuing a qualified opinion, an auditor takes all reasonable steps to put himself in a position to issue a confirming opinion. It is clear that qualification is intended to be the exception rather than the rule. However, one of the consequences of the relative infrequency of qualifications is that such reports are generally assumed to be 'bad' news for shareholders on the grounds that they imply a lower assessment of management's performance than management itself has provided. For example, Elsworth (1964, p.667) observes:

> Because qualification of an auditor's report is still, in this country, a relatively rare occurrence, there is perhaps a general impression that such a qualification implies a stigma on the Board of Management of a company concerned. Perhaps, too, the press has contributed to this by overplaying the significance of what an auditor intended to convey.

Qualification of a corporation's accounts is frequently regarded as a cause for considerable concern. Illustrating this point Gutteridge (1965, p.38) argues:

> Whilst there must undoubtedly be cases where there are qualifications in audit reports which are not of a nature to be 'regarded with great alarm', from experience I believe that no auditor would qualify his audit report unless he had no other alternative. For my part, I think it would be a pity if qualified audit reports became so commonplace as to *not cause some alarm!*

Somewhat more dramatically, *Forbes* (July 1, 1973) reports:

> A qualified audit opinion is no laughing matter. It's like tacking a quarantine notice up on a company's door. Bankers, creditors, beware! Bondholders, stockholders, on your guard!

If the assumed consequences are real, or even (as they appear to be) perceived to be real, then it is not surprising that auditors are reluctant to give qualified audit reports and management reluctant to receive them.

Support for the view that qualified audit reports convey information is inherent in the familiar arguments about the reticence of auditors to render qualified audit reports. These arguments are based on the assumption that the information contained in such reports (Goldberg, 1970):

> ... might have serious, and even dangerous, consequences for the shareholders of the client company.

Discussion of the consequences of qualification, from the point of view of shareholders, has centred around two major themes - 'adverse price effects' and the problem of qualification becoming a 'self-fulfilling prophecy'. Each of these aspects is considered separately below.

2.2.1 Adverse Price Effects

Qualification is frequently assumed to have an adverse effect on the price of the company's outstanding shares. Chambers (1973, p.159) for example argues:

> Any serious qualification puts readers on notice of disagreement. It may issue in demands for explanations at annual meetings, or enquiries by official or regulatory agencies, or notice and comment in the financial press. As qualification may in these ways be damaging to the confidence in the company of investors and creditors, *and to the value of outstanding securities*, the caution of auditors and their reluctance to give qualified audit reports is understandable.
>
> (emphasis added)

Similarly, Estes and Reimer (1977, p.255) argue:

> We would not want a client's loan to be refused or *its stock price to go down* merely because of a qualified opinion and not because of any underlying financial or other reason.
>
> (emphasis added)

Clift (1973, p.6) suggests that there is some evidence that the market is likely to over-react to auditor's qualifications. In support of this assertion he offers the following observation:

> The 1971 annual report of Dunlop Australia contained a qualification on a subsidiary company's annual accounts, this related to unrealised profit on intercompany sales but no value was given. The audit report on Dunlop's accounts referred to this qualification but stated that it did not affect a true and fair view. The market reacted violently on the announcement of this qualification; the price of Dunlop's shares dropped considerably and stayed down until the company's management issued more information about the intercompany profit.

These examples serve to illustrate that adverse price consequences are frequently assumed to follow qualification. So also does the research design of Goldberg's (1970) study. One of the principal questions Goldberg addresses (p.3) is:

> Was there any sudden and substantial downward movement in the price of shares of the company immediately following the publicity given to the qualified audit report?

The possibility of a qualification containing anything other than 'bad' news appears to have been so remote as to not warrant any consideration.[5]

2.2.2 Self-fulfilling Prophecy

It has often been pointed out that to qualify, disclaim/deny or, express an adverse opinion, on the grounds that the enterprise is in financial difficulty may simply add to the difficulty and so hasten its demise. In other words, the auditor's opinion becomes a self-fulfilling prophecy.

Stamp (1969, p.35) illustrates this argument as follows:

> There is another aspect of this situation, and it is one which cannot be lightly disregarded. It is well illustrated by the Reid Murray debacle, where the auditors were very conscious that the group of companies was in a very precarious financial position. The ultimate catastrophe (which eventually occurred) might well have seemed possible if not probable. The auditor's report was a 'clean' one, even though (as the Inspectors suggested) the auditors must have had misgivings. Supposing the misgivings had culminated in a qualified report. The collapse would still have occurred and might indeed have been precipitated, and the argument *post hoc, ergo propter hoc* would then undoubtedly have been raised against the auditors.

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5. This may well have been a reasonable presumption in 1970. As discussed in Chapters 2.4.2 and 3.1.1 however there are strong reasons for believing certain qualifications may actually convey 'good' news to the market. e.g. depreciation on buildings.

> There can be no doubt that such considerations must weigh heavily in the minds of auditors considering qualifying the accounts of companies in a poor financial situation, since it is impossible subsequently to establish that if their judgement had been less harsh the crash would still have taken place.

Woolf (1976, p.42) argues:

> It is not only a matter of ensuring that *enough* is communicated - indeed the reverse could apply. The auditors would hardly relish a situation in which a company's chances of financial salvage are jeopardised or, worse sabotaged by a heavy qualification regarded subsequently to have been excessively alarmist or, for any reason, unwarranted.

Sterling (1968, p.485) provides an actual (but disguised) example:

> C.P.A. firm X had been auditing the ABC Corporation for a number of years under the assumption that it was going to continue to have business life. On this basis a small income had been shown yearly. The rate of return on assets was small because certain land had been bought at a price which reflected the expectation of mineral deposits that had failed to materialize. On the basis of the going concern assumption, this land was kept at its 'going concern value' (cost) instead of its 'liquidation value' (exit price). The management did not intend to liquidate. When C.P.A. firm Y took over the audit and insisted that the land be written down to 'fair market value' (?) the firm was shown to have a large deficit instead of retained 'income'. As a consequence, the management was replaced and the firm went into an orderly liquidation.

Others have also addressed this problem.[6] For present purposes the important point is that all such discussions attribute considerable information content to the qualified audit report.

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6. For example, the Accountants International Study Group address the issue at paragraphs 58-61 of their 1975 "Going Concern Problems" study; as do Lacey and Forster (1971, p.177) when considering the auditor's duty to warn and his duty to report.

2.3 Operationalizing Information Content

There is a presumption that qualified audit reports are possessed of considerable information content. Our purpose here is to consider an operational test of the proposition that qualified audit reports convey information to shareholders; that is, lead shareholders to revise their expectations regarding the equilibrium value of firms.

Information is communicated for the purpose of influencing user expectations and hence, facilitating decision making. The shareholder's major decision is that of whether to buy or sell a particular corporation's shares. Any such decision will be based on his expectations regarding the future profitability and relative risk of the firm. Should a qualified audit report convey information which results in revised assessments regarding either, or both, of these factors then we might expect to observe some sort of shareholder response to that information. In terms of the shareholder's 'buy or sell' decision, such a response should be observable, given any of the economic theories of value,[7] in the behaviour of current market prices.

However, it is well known that share prices are subject to certain common influences and so tend to move up and down together. The price of an individual share changes over time due to these common influences, and also due to specific events or influences which affect expectations regarding that share alone. Thus, when we investigate the price changes

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7. The term is used loosely here to incorporate any of the 'Dividend or Earnings Capitalization' models.

of a share in the periods around an audit qualification, it is necessary to remove that part of the price changes due to fluctuations in the market in general, and focus our attention on that part of the price changes due to events specific to that particular share. When it is expressed in percentage rate of return form, this latter part of the price change is referred to as the 'abnormal return'.[8]

Thus, changes in share prices are utilized as a surrogate for investor expectations and the determination of 'information content' - that is, whether or not information is present in a particular message or event - becomes an empirical question involving an analysis of share price behaviour in response to that particular message or event. The theoretical justification of this intuitive analysis is provided in Chapter 5.

Whilst we do have an operational test of 'information content', it is important to note the following caveats. Firstly, tests of the above nature are capable of determining only whether or not a particular event or message, in this case the release of an annual report which includes a qualified audit report, contains information which the market (i.e. shareholders or investors in aggregate) perceives as being relevant to the determination of current market prices. The results of these tests say nothing about the value, or information content, of the

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8. The adjustment procedure is to subtract the change in the market index from the change in the share's price, after controlling for the risk of that share. The full statistical procedure is described in Chapters 5.1 and 7.2.

qualified audit report in any other context and we have already observed that there are reasons for believing that the audit report is of use in more than this narrowly defined context. Secondly, the tests undertaken can say nothing of the value, or information content, of a qualified audit report to any particular individual. In concentrating our analysis on share prices we are looking at aggregate market responses and must eschew all attempts to draw any inferences at an individual level.

2.4 Specific Tests for Information Content

The analysis of the preceding sections implies that qualified audit reports convey information which lead shareholders to revise their expectations regarding the equilibrium value of the firm, downwards. Put more simply, audit qualifications have an adverse effect on share price.

However such an interpretation of the consequences of qualification, despite the conventional wisdom and the uncritical adoption of this view in the literature, is naive. Indeed, there are a number of reasons for expecting particular types of audit qualifications to have very different effects on share prices.

2.4.1 Test by Type of Audit Qualification

The auditor renders his (qualified) opinion from a set of graded opinions. The following are the types of qualification that may result from an auditor's assessment of the nature and effect of factors which

prevent the expression of an unqualified (clean) opinion (Statement of Auditing Practice CP3/357, 1977):[9]

(i) Exception Opinion
(ii) Statement of Inability to Form an Opinion
(iii) Adverse Opinion

'Exception' or 'Subject to', opinions arise where the substance of a qualification is not sufficiently material to preclude an expression of opinion on the financial statements taken as a whole. A statement of 'Inability to Form an Opinion' or a 'Disclaimer', will only occur in those circumstances where an auditor finds, having exhausted all avenues of enquiry, that he cannot obtain all the evidence and information he requires; and that the potential effect in relation to the accounts taken as a whole is sufficiently material to preclude an exception opinion. An 'Adverse Opinion' is an opinion that the financial statements do not present a true and fair view. The existence of a set of graded opinions implies that the message or information to be conveyed by each differs. It further implicitly assumes that users can distinguish between the information conveyed by the different grades. This suggests that in the first instance the effect that qualified audit reports have on share prices ought to be assessed according to the particular type of qualification rendered.

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9. The period under review in the present study is 1961-1974. (Refer Chapter 4) CP3/357 'Auditors' Reports' was issued in February, 1977. It replaced amongst other statements, C2 'Qualifications in Auditors' Reports' first issued in August, 1967; amended and re-issued in May, 1968. Whilst, the earlier statement did not identify the various types of qualification in the manner indicated above, it did consider separately under the heading 'Practical Applications', these three distinct types of audit qualification.

2.4.2 Tests by Subject Matter of Audit Qualification

There are a number of reasons for expecting the subject matter of a qualification, rather than its type, to be a major determinant of any effect such qualification has on a company's share price.

Consider the form and content of the professional rules *per se*. In light of the professional rules prevailing at any point in time some qualifications are essentially procedural and unlikely to have any significant effect on the value of a firm. Two examples will serve to illustrate this point.

The Institute of Chartered Accountants in Australia first issued recommendations on the practice of auditing in July 1951. A revised version of this 'Statement on the General Principles of Professional Auditing Practice' was published in June 1954, and this remained the primary source of guidelines on auditing until 1969, when a revised version was published under the same title.

The 1954 statement emphasised that accounts are historical in character and their preparation is based largely on conventions, estimates and opinions resulting from the combined judgement of directors and their advisors. The statement emphasised that there was 'room for legitimate differences and indicated that auditors could properly accept the judgement of company directors provided it was honestly and reasonably formed and was not manifestly unsound.

One interpretation of these guidelines was the view that auditors were entitled to accept directors' valuations of assets without further enquiry. A number of audit reports in the early 1960's included a

statement that reliance had been placed on directors' certificates as to the value of inventories. Of course, such qualifications may have been thought to afford auditors some protection should the publication of a company's report lead to legal action. Indeed, one wonders what other significance could be attached to such a qualification.[10]

Similarly, over this same period, the single most frequent qualification to appear in the accounts of Australian companies related to the fact that the accounts of certain subsidiaries included in the consolidation had been audited by other auditors.

The question arises as to whether a statement to the effect that 'certain subsidiaries have been audited by other auditors' should be classified as a qualification, or simply as a statement of fact the purpose of which, once again, may have been to afford auditors some protection if the publication of a company's annual report leadsto legal action. The General Council of the Institute has, at least since 1966, adopted the latter view. In January 1966, the Institute issued a statement 'Auditor's Reports on Group Accounts', being a revision of a statement of the same title issued exactly one year earlier. The 1966 statement contains the following comment:

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10. Whatever prompted these qualifications, the 1969 statement of 'General Principles' eliminated ambiguity in stressing that auditors have their own independent responsibilities to form and express their opinion on the accounts. As a consequence this form of qualification no longer appears.

> Some holding company auditors seem to be content to rely on a simple factual statement in their opinion that the accounts of (certain) subsidiaries have been audited by other firms. Others again make their opinion "subject to" that fact, a qualification which, in the General Council's view, is undesirable in that context and to be avoided unless there are very compelling reasons for it.

The Council's comment was apparently prompted by the relatively high frequency of such 'qualifications'. For example, Goldberg (1970) examines the annual reports of 132 listed companies over the period 1957-68. Of the 321 unpublicized qualifications identified, 256 (80%) related to the audit of subsidiary companies.[11] The Council, at that time, also elected to recommend an appropriate form of opinion on the accounts of companies which had subsidiaries audited by other auditors. The recommended form of opinion included, for the first time, a statement (but not a qualification) to the effect that 'the accounts of certain subsidiaries have been audited by other auditors'.[12] Once again, it appears that this form of 'qualification' (if indeed it can be viewed as such) is essentially procedural and unlikely to have any significant effect on the value of a firm.

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11. Of the remaining qualifications, 44 (55%) related to branches audited by other auditors and 24 (30%) related to the acceptance of a certificate relating to the valuation of stock. In other words, these 3 qualifications occurred so frequently (perhaps because they were only procedural and of little economic consequence) that one wonders what significance, if any, to attach to them. One recent survey [Ryan, Heazlewood and Andrew (1977)] shows the 'subsidiary audit' qualification is still amongst those most frequently encountered.

12. Since 1966 the profession has consistently addressed this matter under the general heading of 'confirming' or 'unqualified' reports. Refer, for example, to CP3/357, Auditors' Reports issued in February 1977; C2.1, Unqualified Reports issued in August 1973; CS2.3, Auditors' Report on Group Financial Statements issued in October 1974 and their predecessors.

Yet another factor helps to foster the distinction being made here between 'procedural' and 'substantive' qualifications. This factor relates to the manner in which the professional rules are administered.

In May 1971, The Institute issued Statement K1, 'Conformity with Institute Technical Statements'. This document proved fairly controversial - it was revised and reissued twice in the following two years. One effect of the statement was to require members of The Institute to disclose in their audit reports the effect of significant departures from profession-sponsored statements and recommendations.

The publication of K1 was followed by a spate of relatively technical 'non-compliance' qualifications - qualifications which reported that 'subject to' or 'except for' the identified departure from a particular accounting standard the accounts presented a 'true and fair' view. Many of these qualifications would appear to be of doubtful economic significance. Consider, for example, a qualification made with respect to the classification of, or accounting treatment accorded, extra-ordinary items and prior-period adjustments (non-compliance with DS1.2/301). These and other such qualifications, particularly those relating to unpopular accounting standards, might simply be regarded as the outcome of quibbles between auditors and management rather than as a reflection of changes in the circumstances of firms.

Still other such qualifications could be regarded as having substantive implications for the value of firms. Some, for example, might be

interpreted as reflecting upon management and could conceivably lead to a fall in share prices, whilst others might be regarded as 'good' news. Depreciation on buildings qualifications (non-compliance with DS5/302) could be interpreted in this light. One line of argument might be as follows. From management's point of view refusing to provide depreciation on buildings incurs the costs of time spent in disputation with the auditors, increased time spent on the audit itself, and possible political and litigation costs. Hence management who are prepared to incur these costs could conceivably be those who believe that there is a higher likelihood of their action increasing the value of the firm. Yet another line of argument might be that management who are prepared to accept such qualifications might be those who are having trouble maintaining the minimum financial ratios specified in their trust deeds - in which case the direction of any information effect on share prices is unclear.

Thus the problem arises that even within a particular class of audit qualifications, some qualifications can be expected to be more significant than others. This suggests that the effect that qualified audit reports have on share prices ought also to be assessed according to the subject matter, or content, of the qualification.

2.5 Summary

A considerable literature supports the proposition that the release of the audit report *per se* is an information generating event. But this hypothesis is difficult to test. On the other hand qualified audit reports are fewer in number and (given the argument in sections 2.2.1 and 2.2.2) possessed of potentially greater information content. Thus the information content of the qualified audit report constitutes the principal concern of this study.

It is possible to tell whether or not qualified audit reports convey information by analysing companies' share price behaviour around the date of release of such qualifications. However, it would be naive to assume that all qualified audit reports necessarily convey 'bad' news to shareholders (i.e. have an adverse effect on share price). Indeed there are strong reasons (given the argument in sections 2.4.1 and 2.4.2) for expecting different types of audit qualification to have quite different effects on companies' share price. Quite simply, audit qualifications are not homogeneous and some appear more likely to convey information, or to be associated with information generating events, than others.

As this thesis is not the first to address this issue, a brief review of the existing empirical studies is provided (Chapter 3) before considering the data (Chapter 4) and the methodology (Chapter 5) to be employed.

CHAPTER 3

REVIEW OF EMPIRICAL RESEARCH

This chapter reviews the existing empirical evidence regarding the information content of the qualified audit report. The studies reviewed are classified into two groups: those that use share prices (Section 3.1) and those that do not (Section 3.2).

3.1 Assessments Using Share Prices

3.1.1 Review of the Evidence

Only two previous studies in Australia have sought evidence of the information content of qualified audit reports in share price behaviour. Goldberg (1970) examines 26 qualified audit reports that received publicity in the financial press during the period 1964 to 1969. In respect of these companies, daily stock exchange quotations (buyer and seller) for a week before and a week after the press announcement are examined for any sudden and substantial downward movement immediately following the publicity accorded the qualification. Goldberg concludes (p.5):

> The most that can be said about this evidence is that share prices show neither a marked nor a consistent reaction to the publicity accorded to Auditors' qualifications.

However, the relatively small sample size makes extrapolation of these results hazardous. Goldberg's reliance on buyer and seller quotes, rather than actual transactions prices, is also disturbing. Demsetz (1968) argues that an average of 'bid' and 'ask' should approximate market price, provided the bids are contemporaneous. However it is

not obvious that Goldberg's data meet this criterion. For example, in one instance (his case No.7) he has reported seller quotes at between 10 and 15 cents less than buyer quotes. Either a transcription error has occurred, or the quotes do not come from the same point in time.

It is interesting to note the effect that the exclusion of this instance has on Goldberg's results. Before exclusion, the average buyer and seller quotes fall after the publicity accorded the audit qualification - by 0.25% and 0.81% respectively. Exclusion of the anomalous instance presents the results in a completely different light. Both buyer and seller quotes rise after the qualification - by 0.86% and 0.41% respectively.

Ball, Walker and Whittred (1979) examine the share price behaviour of companies which receive audit qualifications over the four weeks prior to, the week of, and the four weeks following the date of release of the qualification. Their sample comprises some 117 qualifications (on 101 companies) made over the period 1965-1972. Since audit qualifications are not homogeneous and some appear more likely to convey information, or to be associated with information generating events, than others they divide their sample into three relatively equal sub-groups. These sub-groups are constructed on the basis of an hypothesised information content, i.e. 'good' news, 'bad' news and those which it was hypothesised would have 'no effect' on price. These groups were comprised, respectively, of all those qualifications relating to the fact that no provision had been made in the accounts for 'depreciation on buildings' (46), 'other valuation' qualifications (41)

and 'remaining' qualifications (30). Over one-half of the latter were instances in which a company's accounts were qualified in more than one respect. They conclude (p.34):

> Certain types of audit qualification are associated with changes in shareholders' assessments of the value of securities. Further, within the sample of qualifications studied here (i.e. 'subject to' qualifications), shareholders' responses differ according to the content of the qualification.

Specifically, these authors report that depreciation on buildings qualifications were associated with a significant positive revision in share prices ('good' news) and that for the remaining samples there was little evidence of an adverse effect on share price.

This latter result is somewhat surprising in view of the conventional wisdom regarding audit qualification and the results of a recent UK investigation into this issue which indicates that audit qualifications are associated with significant price reductions.[1] Ball, Walker and Whittred do not, however, consider possible reasons for their result; lack of information content is one, but there are several others. For example, it is possible that some qualifications may be anticipated in much the same way as accounting earnings appear to be.[2] If this is so, then it is possible that these authors may have examined companies' share price behaviour around the wrong announcement date. Alternatively,

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1. Firth (1978). This study is reviewed below.

2. As we shall see, (Chapters 5.4 and 6.4) it is highly probable that such an effect exists.

it is possible that their simple 'matched pairs' methodology is not sufficiently refined to pick up any information effect; and the use of the more popular 'market model' might have lead to different conclusions. (i.e. The observed results might be attributable to violations of their experimental assumptions; particularly $\alpha = 0$, $\beta = 1$). These and other matters are considered in detail *infra*.[3]

Firth (1978) investigates the share price response to 247 audit qualifications which were released, during 1974 and 1975, on the U.K. Stock Exchange. After examining market model residuals for 20 days either side of the announcement of a qualification, he reports (p.649):

> The research has found that certain types of audit reports contain significant "information" which investors use in their portfolio decision making. It also emphasizes that investors react differently to the various types of audit qualification.

The qualifications for which Firth observed large negative price responses were those in which auditors stated that the financial statements were 'not true and fair'. These qualifications related principally to the valuation of assets or the inappropriateness of assuming that a firm was a going concern.

The procedures adopted in the Ball, Walker and Whittred paper to select Australian audit qualifications did not produce any 'going concern' qualifications, and only three instances in which auditors reported that financial statements were 'not true and fair'. The

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3. See Chapter 5, Sections 5.2 and 5.3.

qualifications considered in that paper commonly indicated that 'subject to' specified items, the financial statements provided a true and fair view. Both the Australian and U.K. studies produced similar findings with respect to this form of qualification and to this extent, the findings of the two studies are consistent.

Baskin (1972) presents the first of two American studies concerned directly with the information content of qualified audit reports. The A.I.C.P.A. requires (Reports on Audited Financial Statements, 1976) auditors to determine whether the financial statements present fairly the financial position, results of operations and changes in financial position in conformity with generally accepted accounting principles consistently applied. If there has been a material change between periods in accounting principles or in the method of their application then the auditor is obliged (Section 509.29) to qualify his report. Such a qualification takes the form of an 'Except for' or 'Subject to' opinion and is generally known as a "Consistency Exception'.[4]

Baskin investigates (by use of a two-way variance analysis) the difference in market behaviour between a sample of 128 firms which change accounting techniques and subsequently receive an audit qualification in the form of a 'Consistency Exception'; and a sample of firms which do not change their accounting principles. He concludes (p.50):

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4. A similar requirement has only recently been introduced in Australia. See K1/300, Conformity with Accounting Standards. The requirement first appeared in May, 1971.

> The results of the empirical research presented herein suggest that the consistency exception does not appear to have information content for most investors.

However, Ball (1972, p.30) argues that Baskin's results do indicate that there is a substantial difference in the average market response between the two groups (Baskin's interpretation notwithstanding) and that failure to account for changes in risk may explain at least part of the observed difference.

Alderman (1977) provides the second such study. Asserting that for an accounting or auditing report to have any value it must convey information about risk and/or returns, Alderman examines the impact of 'Subject to' qualifications on firms' covariance or beta risk. To be included in his sample, firms had to meet two requirements:

(i) the firm had received an uncertainty qualification during at least one of the years, 1968-71, and

(ii) the firm had received only unqualified opinions for the three years immediately preceding the initial uncertainty qualification.

The application of these criteria result in a sample of 20 firms. A control sample of 20 firms that had received only unqualified opinions during the period 1965-1974 was also randomly selected. An examination of changes in risk was performed for each firm in the two samples. This examination took place over the three year period preceding and that immediately following the initial uncertainty qualifications. Alderman concludes (p.99):

> ... the evidence gathered in this study indicates that uncertainty qualifications had little impact on market-assessed risk.

It is difficult to evaluate this study. The article referred to is a brief research report and insufficient information is provided to allow an evaluation of the 'validity' of his methodology or his conclusions. However taken at face value, the results indicate that there are no significant price (and therefore information) effects associated with audit qualifications.

For the purpose of acquiring additional, although indirect, evidence regarding the price effects of qualification several American studies into the effect of changes in accounting techniques on share price are also reviewed here. Studies by Archibald (1972), Kaplan and Roll (1972), Ball (1972) and Sunder (1975) are all concerned with an analysis of share price behaviour (using market model residuals) around the date that a change in accounting techniques is announced.[5] This date is identified in most of these studies as the earnings announcement or preliminary profit report date. Consequently each of these studies is reviewed with the aim of determining whether or not there is any systematic, abnormal behaviour in the average residuals around a *suspected* annual report or 'Consistency Exception' release date.

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5. The difference between these and the Baskin study lies in the fact that the latter is concerned with the effect of the 'Consistency Exception', not the announcement of a change in accounting technique on share price. The two points are not necessarily coincidental.

Archibald (1972) investigates the market reaction to 65 firms which change their depreciation accounting method from a form of accelerated depreciation to a form of straight-line depreciation. Unfortunately it is not possible, from the data Archibald provides, to determine a point in time (relative to the accounting change announcement date) at which the annual report could have been released. Consequently, it is not possible to draw any inferences as to the information content of the qualified audit report from this study.

Kaplan and Roll (1972) investigate the average residuals for two samples of firms which change accounting techniques. The first sample consists of 71 firms which change depreciation methods over the seven-year period 1962-1968. The second sample comprises 261 firms which change their method of accounting for the investment credit during the first few months of 1965. For both samples the earnings announcement date (Wall Street Journal) is taken as the first point in time at which the market receives information of the change.

The week in which the qualified audit report could have been released was identified as follows. Ball and Brown (1968, p.167) demonstrate that the preliminary profit report reaches the market, on average, two months after the close of the fiscal year. The average total lag is generally assumed to be around four months (Beaver, 1968 and O'Connor 1973). The qualified audit report is thus assumed to appear

about two months after the preliminary profit report - or in the Kaplan and Roll study, at approximately week 39.[6]

For both of their groups the behaviour of the average residuals is surprisingly similar. Between the preliminary earnings announcement date and the annual report (or qualification release) date, both groups have generally positive residuals. In the announcement week (week 39) the residuals for both groups become negative. Negative residuals predominate thereafter.

Taken at face value, the results appear to support the hypothesis that a qualified audit report does have significant information content (generally 'bad' news) for the ordinary shareholder. However the study suffers from several statistical problems which render such a conclusion suspect.[7]

Ball (1972) attempts to assess the market's reaction to 267 changes in accounting technique. Analysis of his results (p.22) reveals that:

> In the 19 months after the accounting change there is little abnormal price movement. The decline in the cumulative average error over this period is 0.0075, from -0.0501 to -0.0576, indicating an average monthly market adjustment of -0.00039 (4/100 of one percent per month).

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6. Two points arise here. Kaplan and Roll identify the announcement week as week 31, instead of adopting the more usual terminology; week zero. It is also important to realise that week 39 is only the average annual report release date. Obviously there will be some dispersion around this mean. Consequently the behaviour of the residuals on either side of week 39 is probably as important as the behaviour observed in week 39 itself.

7. See Ball (1972, p.31) and Gonedes and Dopuch (1974, p.91).

Ball's most interesting conclusion, from the point of view of this study, is contained in a footnote to his results (p.23, footnote 26):

> Most accounting changes are accompanied by an audit qualification in the form of a 'consistency exception'. The result that a consistency exception does not appear to create any systematic market reaction would be surprising to some.

The study appears to overcome many of the limitations of earlier works. The changes studied are spread relatively evenly over a 14 year period, both one and two-factor market models are employed and adjustments are made for non-stationarities in risk.

Sunder (1975) investigates, over a 21 year period, the effects of firms' decisions to extend (126 cases) or reduce (29 cases) their usage of the L.I.F.O. method of inventory valuation. From an analysis of his cumulative average residuals he concludes (p.314):

> During the twelve months following the accounting changes, no significant abnormal price changes are observable for these firms.

This conclusion is similar to that reached by Ball (1972). Gonedes and Dopuch (1974, p.89) however, point out that since the results are heavily influenced by particular industries (especially steel), the study is not free of statistical problems; and that while Sunder does try to overcome the non-stationarity of model parameters problem, the procedure for doing so (as in Ball) is *ad hoc*.[8]

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8. Of course, the same can be said about every 'announcement effect' study that has controlled for risk shifts, simply because there is no theory about the behaviour of covariance risk over time.

3.1.2 Summary

Only five studies have concerned themselves directly with the information content of qualified audit reports as evidenced by share price reaction. Three of these (Goldberg, Baskin, Alderman) reach similar conclusions - effectively that qualified audit reports do not convey information to the market. (i.e. have no effect on share prices.) However, it is important to recall the reservations expressed above regarding two of these studies. It seems that the conclusions reached in the Goldberg and Baskin studies are not unambiguously supported by their data. The Ball, Walker and Whittred and the Firth studies both appear to indicate that qualifications do affect share price, though the response is conditional on the subject matter of the qualification. However in strong contrast to Firth; Ball, Walker and Whittred find little evidence of qualification having an adverse effect on share price.

Four other studies were examined in an attempt to provide additional evidence on the issue. Once again it appears that reliance on any implications that can be drawn from two of these studies (Archibald, Kaplan and Roll) is unwarranted. The Ball and Sunder studies provide the most reliable results and both reach similar conclusions - no abnormal price changes in the months following the announcement of a change in accounting technique. It is in these months that the qualified audit report appears. Nevertheless, neither study was concerned with the information content of the qualified audit report *per se*. They provide, at best, indirect evidence concerning the

information conveyed by only one form of the qualified audit report - the 'Consistency Exception'.

3.2 Non-Price Methods of Assessing the Effects of Qualified Audit Reports

3.2.1 Review of the Evidence

The evidence available from studies such as those reviewed in section 3.1 do not answer all questions regarding the effect of qualified audit reports on shareholders or for that matter any other capital market participants. We have, for example, observed that qualification may have significant implications for creditors and may even result in enquiries or action by regulatory agencies such as the Corporation Affairs Commission or the Stock Exchanges. However given our immediate objective such issues need not concern us here. What is of concern is whether there exist any non-price studies which provide additional and direct evidence regarding the information content of qualified audit reports. Are there, for example, any studies that indicate that shareholders respond differently (make different decisions) when confronted with qualified accounts *vis à vis* unqualified accounts?

There appear to be no published non-price studies concerned with the effect of qualified audit reports on shareholders.[9] However, there have been several attempts, principally of the questionnaire or survey variety, to determine the importance of the auditor's opinion to

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9. However, two recent studies investigate the effect of audit qualifications on banks' lending decisions. Estes and Reimer (1977) report the results of a study into the effect of qualification for non-compliance with generally accepted accounting principles on the lending decision. To obtain evidence on this issue they undertook a controlled experiment using bankers in the United States. The control group was provided with a standard, short-form audit opinion, while the test group was given an 'Except for' (i.e. 'Subject to') opinion with exception being taken to a minor or technical violation of APB Opinion 18 (the reporting company carried certain investments at cost instead of equity). Each group received the same financial information and in both cases non-compliance with APB Opinion 18 was clearly detailed in a footnote. They conclude (p.250) that the 'Except for' opinion doesnot significantly affect the banker's lending decision. Firth (1979) addresses the question of whether banks lend less money when a firm's accounts have been qualified. The research design used a controlled experiment where (UK) bankers were asked what is the maximum loan they would grant a (hypothetical) company on the basis of a set of annual accounts which had different types of audit qualifications. The results show the bankers attach considerable importance to going concern and asset valuation qualifications and companies suffering these types of audit reports would find their credit ranking considerably impaired. It was also shown that qualifications for non-compliance with professional recommendations had no impact on bank lending decisions. Whilst the latter conclusion is consistent with Estes and Reimer's (1977) result, it is a more forceful one. Estes and Reimer simply deomonstrate that bank loan officers are not significantly affected by an 'Except for' opinion *when the basis for the exception is otherwise fully disclosed.* However this is exactly what one would expect. In this particular exercise the qualified audit opinion, by definition, conveyed no new information. It merely reported existing or previously disclosed information. The only thing that Estes and Reimer appear to have demonstrated is that qualifications lacking in information content have no effect on bankers or conversely that bankers do not respond naively to audit qualifications.

financial statement users. We have already observed the results of one such Australian study.[10] In the United Kingdom, Lee and Tweedie (1975) find that shareholders give the auditor's opinion the lowest mean rating of importance out of seven items in the annual report. The auditor's report also has the lowest percentage of readership. These results have recently been duplicated in a New Zealand context (Wilton and Tabb, 1978). Similarly, in the United States, Epstein (1975) observes that shareholders rank the auditor's report seventh out of seven annual report items in terms of usefulness. Other United States surveys of the frequency of readership of the auditor's opinion have reported results similar to those of Lee and Tweedie; although these studies also conclude that bankers and financial analysts are slightly more interested in the auditor's report than shareholders.[11]

3.2.2 Summary

The results of the existing non-price studies into the usefulness of the auditor's report are certainly consistent, although they are generally unfavourable. Yet these studies provide little reliable evidence regarding the effects or the information content of a qualified audit report. Firstly, questionnaires of this type are difficult to design and administer. Secondly, the results of such questionnaires

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10. Clift (1973) cited in Chapter 2, page 11.

11. For example, the Opinion Research Corporation, the Georgeson/Graham Chisholm and the Brenner studies reported in Estes and Reimer (1977).

even if successfully designed and administered, are difficult to interpret. The main reason for this is that they are not based on any theoretical framework that provides a linkage between the auditor's report and the resource allocation decisions of capital market participants (i.e. they provide no backdrop of expectations against which to interpret the results). Even if they were so based, it is doubtful that such studies would be of much value in evaluating external reporting issues. As Gonedes and Dopuch (1974, p.106) point out, in markets where individuals are price-takers and compete for information:

> ... any generalizations made about the aggregate behaviour of capital market agents on the basis of results from lab/field studies are extremely tenuous. Specifically, given an efficient capital market, studies of the behaviour of particular types of investors (e.g. 'average' investors or 'financial analysts') are not likely to lead to reliable generalizations about the relationship between the production of accounting information and capital market equilibrium. To see this, recall that, within a competitive market, market behaviour is a function of the interactions among rivalrous price-takers. The attainment of equilibrium in such a market is induced by the workings of the system as a whole, or *aggregate* market behaviour, and not by the actions of particular individuals. Since the lab/field studies concentrated on individual behaviour rather than competitive market phenomena, their relevance to the issues at hand seems nonexistent.

CHAPTER 4

THE DATA BASE

4.1 Data Sources

The file described herein was constructed from transcripts and photocopies of actual auditor's reports. The transcripts or copies were taken from 'Company Annual Report' files maintained by both the Sydney Stock Exchange Library and the Department of Accounting, University of Sydney. In a (very) few instances sample members were identified by corresponding with certain companies and/or their auditors.

4.2 File Construction

A data file containing some 613 audit qualifications on 337 different companies constituted the initial sample. This file was constructed in two phases. In its first phase the file was constructed over companies that had their ordinary shares listed as commercial or industrial on the Sydney Stock Exchange at any time between March, 1961 and January, 1973. All qualifications occurring in *consolidated* financial statements prepared by these companies for the period 1961-72 inclusive were collected, other than those relating to:

(i) certain subsidiaries included in the consolidated accounts having been audited by other auditors;

(ii) the value of stock reported in the consolidated accounts having been accepted on the basis of a certificiate of the directors.

These restrictions were imposed largely for the reasons considered in Chapter 2.4.2. That is, in light of the professional rules prevailing

during this interval these qualifications were essentially procedural, and therefore unlikely to have any significant effect on financial statement readers. Additionally these qualifications, (perhaps because of their procedural nature), occurred quite frequently and these restrictions serve to keep the file within manageable proportions.

The second phase of the sample construction involved updating the file from January, 1973 to December, 1974. At this stage of the data collection two additional restrictions were imposed. Firstly, with respect to those companies which were listed for the first time as commercial and industrial during this period, only the annual reports over this period were perused. Thus if such companies received a qualification at any time prior to listing it is not included in the file (cf. phase 1). Secondly, it was also decided to exclude from the sample those qualifications which the auditors had specifically identified as having no or minor relevance to the group accounts.

Apart from the few companies that were missed as their annual reports could not be sighted (for various reasons), it is believed that the file comprises an almost exhaustive sample of the most important qualifications occurring on companies listed with the Sydney Stock Exchange during the 14 year period, 1961-74.

4.3 Australian Audit Qualifications, 1961-1974

Summary statistics of the file described in 4.2 are provided in Tables 1 through 4 following. From Table 1 we observe that approximately 20% of the qualifications rendered during the 14 year period were classified

as multiple qualifications, i.e. the consolidated accounts were qualified in more than one respect. Approximately 68% of these qualifications occurred during the years 1972-74 (Table 3);[1] and many of these are directly attributable to the release of K1 in 1971.

As previously observed the publication of K1 was followed by a spate of qualifications. Many reported non-adherence with a recently released Institute recommendation (November, 1971) dealing with depreciation of fixed assets. Institute Statement D5, "Depreciation, Depletion and Amortisation of Fixed Assets" superseded an earlier document which had been in force for some twenty-four years and had the effect of requiring firms to calculate depreciation on buildings, contrary to common Australian practice. Reference to Table 1 indicates that the most frequent type of qualification encountered related to the adequacy of various provisions made, though this is principally due to the extremely large number of qualifications made with respect to either the adequacy of, or the failure to make provision for, depreciation on buildings. This qualification alone accounts for 39% of the total rendered. All but 6 of these 240 qualifications appear to have occurred in response to the Institute's contemporaneous release of D5 and K1.

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1. When each of these qualifications is broken down into its component parts the incidence of qualifications increases by approximately 30%. Approximately, since in several instances it is difficult to determine exactly in what respect the auditors were qualifying their opinion. As an example, take a company with considerable long term receivables all made to companies presently in liquidation. The auditors may have discussed not only the $ value of the amount shown as 'Receivables', but also the adequacy of the 'provision for losses' on same. As this situation usually arises in the 'multiple' qualification case it is anticipated that most difficulties in using the file will be encountered here.

Table 1
Initial Sample
Distribution of Audit Qualifications
By Subject Matter

Type	*Number*
Multiple Qualifications	122
Valuation of Assets	71
Adequacy of Provisions:	
- Depreciation on Buildings	240
- Deferred Income Tax	13
- Other	46
Accounting Principles	47
Miscellaneous:	
- Inadequate Record, Information and Explanations	16
- Exempt Proprietary Companies and Reliance upon other Auditors	18
- Other	40
	613

Table 2
Initial Sample
Distribution of Audit Qualifications
By Company

Number of Times Qualified	*Number of Companies*	*Number of Qualifications*
1	176	176
2	86	172
3	54	162
4	13	52
5	6	30
7	1	7
14	1	14
TOTALS	337	613

Table 3
Initial Sample
Distribution of Audit Qualifications
By Year

Type of Qualification	*Year*														*Totals*
	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	
Multiple	2	4	4	2	6	5	2	4	5	9	9	22	19	29	122
Valuation of Assets	3	3	6	3	3	6	1	2	1	4	9	5	11	14	71
Adequacy of Provisions:															
- Depreciation on Buildings							2	2		2	13	69	72	80	240
- Deferred Income Tax											3	7	2	1	13
- Other		2		2	1	2	1	1	2	3	8	7	7	10	46
Accounting Principles	2	1	1	2	1	2	2	2	4	4	3	5	6	12	47
Miscellaneous:															
- Inadequate Records Information and Explanations			2	2	3				2	2	2		1	2	16
- Exempt Proprietary Companies etc.				1		1	1				2	1	5	7	18
- Other		1	1	1		2	3	2	2	2	5	5	10	6	40
TOTALS	7	11	14	13	14	18	12	13	16	26	54	121	133	161	613

Still other of these audit qualifications (13) reflected managements' unwillingness to comply with Institute recommendations concerning the calculation of provisions for deferred income tax - Statement D4, 'Treatment of Income Tax in the Accounts of Companies' (November, 1970).

The remainder of these qualifications (46) related principally to the adequacy of provisions made for the depreciation or amortisation of fixed assets - other than buildings (11); and losses on investments, advances, and the disposal of various assets (19).

The high incidence of audit qualifications in the early 1970's attracted the attention of local regulatory agencies. In particular, the N.S.W. Commissioner for Corporate Affairs issued a press release indicating that the Commission was concerned that the conflict of opinion between directors and auditors might reduce progressively the credibility of company accounts and inhibit the development and acceptance of proper accounting principles. The Commissioner stated that unless the accounting profession resolved these disputes then legal action might be instituted on the grounds that financial statements which were the subject of audit qualifications did not give a 'true and fair view' as required by the Companies Act. Soon afterwards the Australian accounting bodies introduced stricter requirements for members to conform with accounting rules. The relatively high incidence of audit qualifications has since continued.

Qualifications with respect to the valuation of assets comprise approximately 12% of the total rendered. These qualifications are spread throughout the 14 year period (Table 3), though once again the increasing

frequency of qualifications in the post-1970 era is evident. These 71 qualifications relate principally to the valuation of debtors (24) and other investments (26 - including land and buildings 7).

The 47 qualifications (approximately 8% of the total) made with respect to accounting principles include 6 for changes in same. Many of the remaining 40 are qualifications made with respect to Institute Statement No.DS1.2, 'Profit and Loss Statements', (December 1973) and its predecessor D1.2 (June, 1970). Table 3 reveals that approximately 64% of these qualifications occur in the post D1.2 era.

Approximately 12% of the total qualifications have been classified as miscellaneous. Qualifications in this category range from the expression of reservations regarding the future profitability of the firm and post-balance date events to certain accounts not having been prepared or made available and the inability to take a physical inventory of livestock, except that under close paddock control. Qualifications regarding the adequacy of the accounting records and the information and explanations provided (16) and those with respect to the fact that certain subsidiaries, prior to acquisition, were exempt proprietary companies and had not appointed an auditor (18) were the most frequently observed. Most other qualifications under this head occurred 5 or fewer times.

Table 2 reveals that of the 337 companies included in the sample, approximately half (48%) received more than one qualification over the 14 year period. In fact one company received a qualification (regarding its treatment of depreciation expense) in 14 consecutive years.

It is from the data base described above that the samples employed in all subsequent testing are derived. The description of the samples so derived is left to the chapters in which the results of such tests are reported.

CHAPTER 5

RESEARCH METHOD

It appears that there is considerable support in the literature for the hypothesis that audit reports, and in particular qualified audit reports, convey information to users of financial statements (Chapter 2). Yet the existing empirical evidence is, on the whole, relatively incomplete (Chapter 3). The aim of this chapter is to consider the methodology that will allow additional empirical evidence to be brought to bear on the issue.

5.1 Research Methodology[1]

Let price equilibrium at time t-1 be characterized by the Sharpe-Lintner Capital Asset Pricing Model (C.A.P.M.). Then:

$$\begin{aligned} E(\tilde{r}_{it}) &= r_{ft} + [E(\tilde{r}_{et}) - r_{ft}]\,\beta_{it} \\ &= (1 - \beta_{it})r_{ft} + \beta_{it}\,E(\tilde{r}_{et}) \end{aligned} \qquad [1]$$

for all $i = 1, \ldots, N$. The terms of the equation have the following meanings:

$\tilde{r}_{it}$ = the random return on security i over the interval (t-1, t);

$\tilde{r}_{et}$ = the random return on the portfolio of all risky securities in the economy;

r_{ft} = the known return on the riskless security f;

β_{it} = $\mathrm{Cov}(\tilde{r}_{it}, \tilde{r}_{et})/\mathrm{Var}(\tilde{r}_{et})$; and

E is the expectation operator and the tilde denotes a random variable.

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1. The subsequent demonstration is Ball's (1978).

The return on aggregate wealth is given as :

$$\tilde{r}_{et} \equiv \Sigma_i \omega_{it} \tilde{r}_{it} \qquad [2]$$

where: $\omega_{it} \equiv V_{i,t-1}/V_{e,t-1}$, and $V_{e,t-1} \equiv \Sigma_i V_{i,t-1}$; V is the market value; and the summations are across all securities. The identity (2) and the N versions of (1) possess the unusual characteristic that the constant $E(\tilde{r}_{et})$ on the RHS of the N versions of (1) is the average of the constants $E(\tilde{r}_{it})$, $i = 1, \ldots, N$ on the LHS.

Now define:

$$\tilde{\delta}_{it} \equiv \tilde{r}_{it} - E(\tilde{r}_{it}) \qquad [3]$$

and substitute in [1], to obtain for all i:

$$\tilde{r}_{it} = (1 - \beta_{it}) r_{ft} + \beta_{it} \tilde{r}_{et} + \tilde{\varepsilon}_{it} \qquad [4.1]$$

where:

$$\tilde{\varepsilon}_{it} = \tilde{\delta}_{it} - \beta_{it} \tilde{\delta}_{et} \qquad [4.2]$$

From [3], we see that:

$$E(\tilde{\delta}_{it}) = 0$$

and aggregating [3] across all securities in accordance with [2] gives:

$$E(\tilde{\delta}_{et}) = 0.$$

Thus from [4.2]:

$$E(\tilde{\varepsilon}_{it}) = 0, \text{ for all } i. \qquad [4.3]$$

From [4.1] we see that:

$$\begin{aligned} \text{Cov}(\tilde{r}_{it},\tilde{r}_{et}) &= \beta_{it}\,\text{Cov}(\tilde{r}_{et},\tilde{r}_{et}) + \text{Cov}(\tilde{\varepsilon}_{it},\tilde{r}_{et}) \\ &= \text{Cov}(\tilde{r}_{it},\tilde{r}_{et}) + \text{Cov}(\tilde{\varepsilon}_{it},\tilde{r}_{et}) \end{aligned}$$

and hence:

$$\text{Cov}(\tilde{\varepsilon}_{it},\tilde{r}_{et}) = 0, \text{ for all } i. \qquad [4.4]$$

Equations [4.1 - 4.4] comprise the one-factor market model - proposed by Sharpe (1963) and first used in 'anouncement effect' studies by Fama, Fisher, Jensen and Roll (1969).

Equation [4.1] can be written in the more general form:

$$\tilde{r}_{it} = \alpha_{it} + \beta_{it}\tilde{r}_{et} + \tilde{\varepsilon}_{it}, \qquad [4.5]$$

with:

$$\alpha_{it} = (1 - \beta_{it})r_{ft}.$$

The model simply assumes that individual security returns are linearly related to the returns on a market portfolio, and that the usual assumptions of the ordinary least squares regression model are satisfied.

Now consider a world in which static price equilibrium is established in accordance with the asset pricing model [1]. An event Φ occurs which, for a number of securities, implies that the conditional return distributions (i.e. conditional upon Φ) differ from their marginal counterparts.

The sample mean disturbance of [4.5] is, under certain conditions,[2] and estimator for the variate $\tilde{\nu}$ which is defined by:

$$\tilde{r}_{it}|\Phi \equiv \tilde{r}_{it} + \tilde{\nu}_{it}|\Phi \text{ for all } i, \qquad [5.1]$$

and:

$$\text{Cov}(\tilde{r}_{jt},\tilde{\nu}_{it}|\Phi) = 0 \text{ for all } i,j. \qquad [5.2]$$

The event Φ (in this case an audit qualification) is thus assumed to alter the return distribution for a security, and the variate $\tilde{\nu}$ captures the effect of that event.

5.2 Experimental Assumptions

The interpretation of the market model residual in this manner is only possible if the following assumptions are made about the effect of Φ on security prices. It must be assumed for all $i = 1, \ldots, N$ that:

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2. Refer Chapter 5.2, *infra*.

1. $\beta_{i,\tau}|\Phi = \beta_{i,\tau}$

2. $r_{f,\tau}|\Phi = r_{f,\tau}$

3. $\tilde{r}_{e,\tau}|\Phi = \tilde{r}_{e,\tau}$

4. $\tilde{r}_{i}|\Phi$ is multivariate normal.

That is to say, it must be assumed that the rate of return on the market index, the rate of return on the riskless security and the relative risks of all securities are independent of the attribute Φ (audit qualification). These conditions, if met, ensure that the market model disturbance will be an unbiased estimate of the security price reaction to the event under consideration.

There is little reason to expect audit qualification to have any systematic effect on $\tilde{r}_{e}$ or $\tilde{r}_{f}$. It is however possible that qualification may have some effect on securities' relative risks, particularly if there is any substance in the conventional wisdom regarding the 'self-fulfilling

prophecy' (Chapter 2.2.2). This problem is partially avoided in the present context by excluding from the empirical analysis any companies which appeared likely to be undergoing risk shifts. In particular, companies which went into liquidation or receivership at any time during the 14 years covered by the qualifications file described in Chapter 5 were excluded, as were qualifications which were announced within 6 months of any takeover offer. Further support for the adequacy of this assumption is found in the Alderman (1977) study reviewed briefly in Chapter 3.1.1. Recall that Alderman concluded that 'Uncertainty' or 'Subject to' qualifications had little impact on market-assessed (i.e. beta) risk. However, it is recognised that this assumption may not be a reasonable one in the case of more serious qualifications such as those relating to an 'Inability to Form an Opinion' or an auditor's conclusion that the accounts are 'Not True and Fair'. However unless these conditions are met, or assumed to be met, by the attribute under study, then as Ball (1978, p.23) observes:

> ... the market model is not capable of estimating the security-price reaction to that attribute, and no interpretation of the market model disturbance seems possible.

5.3 Joint Effects

It is possible that the effects (if any) observed in either of the specific tests for information content considered previously (Chapter 2.4.1 and 2.4.2) might be attributable to joint or concurrent events. The release of a qualified audit report occurs simultaneously with the release of a company's annual accounts which, amongst other things, include:

(i) a Profit and Loss Statement,
(ii) a Balance Sheet, and
(iii) a Chairman's or Directors' Report.

The profit figure and any extraordinaries are known to the market at the time of the preliminary report, which is released on average about 34 days before the glossy annual report (Davies and Whittred, 1979; Dyer and McHugh, 1975). Thus if there is a joint effect it seems more likely to be attributable to either the Balance Sheet or the Chairman/Director's Report. This, of course, is reasonable only if:

(a) the results announced in the preliminary report remain unchanged in the final profit and loss account, and

(b) any effect attributable to the finer partitioning of the information set in the profit and loss statement is minimal.

There is little doubt that (a) appears to be the case. Dyer and McHugh (1975, p.210) observe that the preliminary profit report is released on average 3 days *after* the date that the auditors submit their report to directors. Dyer (1973, p.457) in an apparent precursor to the Dyer and McHugh study argues that:

> As Section 3.C. (of the Stock Exchange Listing Requirements) does not require that the preliminary statement be submitted by any certain date or by any definite time interval, companies simply present audited figures which for the most part serve little if any real purpose.

Whilst it appears unnecessary to control for (a) it is not possible, in this study, to control for (b). Similarly, it is not possible to control for (ii) or (iii). Hence any results must be carefully interpreted. They may be attributable to any or all of the concurrent announcements.

5.4 Anticipatory Effects

In announcement effect studies of this sort it is always possible that any effect the event under consideration may have had has already been impounded in share price. That is, it is possible that the event or information may have been anticipated (reacted to in advance of its public release) in much the same way as accounting earnings appear to be.[3] This could happen because the market obtains the information from more prompt media, or because it has responded to some sort of signal or cue which is normally associated with the event under study. In the present instance, given the strict confidentiality of the auditor-client relationship, the latter explanation is the more feasible.

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3. Most studies which employ the 'market model' to study share price response to annual earnings announcements observe such an effect. e.g. Ball and Brown (1968), Beaver (1970) and Brown (1970 and 1972).

If signalling does occur (i.e. if the market is anticipating audit qualifications), then it would appear that it might do so in either of two ways:

(i) a market identification of the incidence of a particular type of qualification with particular audit firms, or

(ii) through any effects that qualification might have on companies' reporting lags.

With respect to (i) we can observe firstly, that auditing firms in Australia seldom make public their position with respect to particular accounting standards. Secondly, and more importantly, whilst relatively technical, or non-compliance, qualifications may be predictable, it is extremely unlikely that substantive qualifications are. We have already observed that such qualifications are likely to be the exception rather than the rule (Chapter 2.2).

It thus seems likely that if audit qualifications are anticipated, it will be via the effect that any such qualifications might be expected to have on corporations' reporting behaviour. That qualification can be expected to have such an effect there seems little doubt. Statement of Auditing Practice, CP3/357 Auditors' Reports (1975, paragraph 17) requires that before issuing a qualified opinion, an auditor should take all reasonable steps to put himself in a position to issue a confirming opinion. Such a course of action is however subject to the general time constraint (paragraph 15) that:

> It is the obligation of the auditor to issue an audit report on all accounts submitted for audit within a reasonable period of time after submission to him of the completed financial statements by an entity. The auditor should not unreasonably defer issuing his report in the hope of obtaining further evidence to resolve a possible qualification situation, no matter how serious the possible qualification might be.

The language of CP3/357 thus implies that qualification might be expected to affect a corporation's reporting behaviour (particularly paragraphs 15 and 17 considered above). The reluctance of auditors to issue a qualification (previously observed) and of management to accept one (perhaps because of the assumed consequences) also make it improbable that qualification will not have such an effect. It would not be surprising under these circumstances to observe an increase in corporate reporting lags as auditors expand their procedures (increase their audit time) in an attempt to eliminate any uncertainties, or as management takes issue with the auditor's findings and an increase in auditor-client negotiation times ensues. Thus it seems likely, and it is hypothesised here (*hypothesis 1*) that companies which receive an audit qualification will take longer to report than those which do not.

It was argued in Chapter 2 that audit qualifications are not homogeneous and some appear to be potentially more significant than others. The existence of a set of graded opinions clearly implies that the message to be conveyed by, and hence the significance to be attached to, each differs. Generally speaking, an opinion that the accounts are true and fair 'Except for' or 'Subject to' certain items is not regarded with quite the same amount of concern as one in which the auditor

has stated that he is 'Unable to Form an Opinion' or that the accounts are 'Not True and Fair'. We might not, for example, expect a (Subject to) qualification with respect to the valuation of a firm's receivables to have quite the same effect on a corporation's reporting behaviour as one with respect to the future profitability of the company (where the auditor was 'Unable to Form an Opinion') or one in which the accounts were qualified in several respects (where the auditor was of the view that the accounts were 'Not True and Fair'). Thus it is hypothesized (*hypothesis 2*) that the more serious the qualification, the longer will be the reporting lag.[4]

The discussion in Chapter 2 also indicated that even within a given category of audit qualifications, the significance to be attributed to the qualifications may vary considerably. For example, many 'Subject to' qualifications such as those relating to non-compliance with unpopular accounting standards, might be regarded simply as the outcome of quibbles between management and auditor; rather than as reflecting changes in the circumstances of firms. Therefore it is also hypothesized (*hypothesis 3*) that the subject matter of an audit qualification will affect corporations' reporting lags.

Accept for the moment these hypotheses. How could the incidence of a qualified audit report be anticipated? The first point in time

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4. It is difficult to tell whether a 'Not True and Fair' qualification is any more or less serious than an 'Unable to Form an Opinion' qualification. However, both can reasonably be said to be more serious than 'Subject to' qualifications. For this, and the reasons discussed in Chapter 6, these two groups are hereafter treated as members of the one category - 'Serious' qualifications.

at which the market knows *for certain* that a company's annual accounts have been qualified is when the 'glossy' annual report reaches it. Stock Exchange listing requirements state only that a company must disclose whether its preliminary profit report is audited or subject to audit; not whether, if it is audited, it is qualified. This, however, does not mean that the market is unaware of the possibility of a dispute between Management or the Board of Directors and their Auditors. The first sign of such a possibility would be evident when a company's preliminary profit report takes longer than 'usual' (average) to reach the Stock Exchange. As the period of time between a company's usual preliminary profit report release date and the present increases, so too does the possibility of a qualification. It is in this way that an efficient market might anticipate such an event.

If anticipation of audit qualifications is a possibility, then the time horizons of this study must encompass any period over which it may do so - since any price response to the impending qualification may occur over this period. Thus before any price analysis can take place it is first necessary to determine the effect that qualified audit reports may have on corporations' reporting behaviour. Such is the purpose of the following chapter.

CHAPTER 6

EMPIRICAL RESULTS: THE EFFECT OF QUALIFICATION ON CORPORATE REPORTING LAGS

In Chapter 5.4 it was hypothesized (*hypothesis 1*) that companies which receive an audit qualification will take longer to report their annual results than those which do not and that (*hypothesis 2*) the more serious the qualification, the greater would be the delay. It was also argued (*hypothesis 3*) that the subject matter, or content, of an audit qualification could be expected to influence a corporation's reporting behaviour. These three hypotheses are addressed in this chapter.

6.1 Data

The experiment in this study is to compare the reporting behaviour of companies which receive various forms of audit qualification with the reporting behaviour of a sample of companies which receive no such qualification. In order to specify corporate reporting lags on companies which had received qualified audit reports, three separate samples were selected from the file of audit qualifications described in Chapter 4.

A ten year test period, 1965-74, was specified (the reasons for this are considered subsequently) and sample members were selected after imposing the following additional constraints. Qualifications which were repeated in subsequent years in the accounts of any one company

were excluded;[1] as were qualifications occurring on companies which went into receivership or liquidation at any time during the 14 years covered by the file. The former were excluded on the grounds that the potential consequences of subsequent and repeated qualifications on a corporation's reporting behaviour were likely to be less severe and hence, more difficult to detect. Such qualifications may, for example, involve less actual audit time than in the year of initial qualification; and perhaps even less time spent in auditor-client disputes. The latter qualifications were excluded on the grounds that they were likely to overstate the average effect of audit qualifications. Such companies are inevitably delisted and the necessity of meeting Stock Exchange listing requirements is therefore obviated. The appointment of Receivers, Managers and occasionally Government Inspectors - all with their own reporting obligations - also seemed likely to give rise to 'above average' reporting delays.[2]

The first sample selected comprised 100 'Subject to' qualifications. Sample members were selected at random, although in order that tests of hypothesis 3 could be conducted, the relative frequency (by subject matter) of same was specified in advance. Each 'Subject to' qualification is thus represented in direct proportion to its relative frequency in

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1. This criterion does not preclude a company appearing more than once in the sample. For example, a company may have been qualified for depreciation on buildings in one year and received a multiple qualification the next. Only 3 such instances arose.

2. Whilst not of direct interest in this study, evidence on the reporting behaviour of 'failed' companies was also collected. Perusal of this evidence confirms this belief.

the population. The remaining two samples comprised those 16 cases in which the auditors reported that they were 'Unable to Form an Opinion' and the 9 cases in which the auditors concluded that the accounts were 'Not True and Fair'. The latter samples represent all those qualifications which meet the specified criteria. The former represents approximately 36% of its respective population.

Corporate reporting lags were also specified on 120 companies which received 'Unqualified' or 'Clean' audit reports over the test period. This sample provides the standard against which the reporting behaviour of qualified companies is to be judged. The 1965 starting point on the test period was dictated by the ready availability of data on the reporting behaviour of Australian companies since that time. Dyer and McHugh (1975) study the timeliness of the Australian annual report over the period 1965-71 inclusive. Davies and Whittred (1979) replicate the Dyer and McHugh study over the period since their data terminates to the most recent financial year for which full data is available - the six year period, 1972-77.

Sample members for the period 1965-71 inclusive were selected from the data employed in Dyer and McHugh. The data was generously made available by these authors. Sample members for the period 1972-74 inclusive were selected from the data employed in Davies and Whittred. Sample members were selected at random, though once again, the relative frequency of same (by year) was specified in advance. This was done to ensure there would be sufficient observations to employ a paired-sample methodology on a year by year basis if this proved

necessary.[3] Tables 1 and 2 describe the major characteristics of the final samples.

Table 1
Timeliness Samples
Distribution of Audit Qualifications
By Year

Type of Audit Report	*Year*					
	1965-70	*1971*	*1972*	*1973*	*1974*	*Totals*
Subject to	19	9	13	39	29	100
Unable to Form an Opinion	4	3	2	3	4	16
Not True and Fair	2	2	1	1	3	9
Clean	20	20	20	30	30	120

Table 2
Timeliness Samples
Distribution of Audit Qualifications
By Subject Matter

	Subject to	*Unable to Form an Opinion*	*Not True and Fair*
Multiple	23	8	4
Valuation of Assets	13	3	3
Adequacy of Provisions:			
- Depreciation on Buildings	27		
- Other	12	1	
Accounting Principles	9	1	
Miscellaneous	16	3	2
TOTALS	100	16	9

3. The pairs were constructed so as to be of approximately equal size. Approximately, since the non-parametric tests employed in this study do not require the pairs to be of the same size in order to make valid comparisons. For example, Table 1 indicates 1965-70 'Qualified v. Clean' gives 25:20.

Three reporting lags for each company were identified[4] and are referred to throughout this study as the:

(i) Preliminary Lag - being the interval of the number of days from the year end to the receipt of the preliminary final statement by the Sydney Stock Exchange.

(ii) Auditor's Signature Lag - being the interval of the number of days from the year end to the date recorded as the opinion signature date on the auditor's report.

(iii) Total Lag - being the interval of the number of days from the year end to the receipt of the published annual report by the Sydney Stock Exchange.

Time lag data on each of the 245 sample members was taken from annual report files maintained by the Sydney Stock Exchange Library. The library has a policy of stamping all documents with the date and hour received. Individual time lags for each company were computed from these stamped dates. For the preliminary final statements, the earliest date stamped on the letter, telex or telegram containing the necessary information was taken as the receipt date. In all cases the beginning date for the period was the financial year end. However, neither the year end nor the stamped date of receipt was included in computing the time lags.

6.2 Methodological Issues

Non-parametric tests of significance were adopted in all cases; not only because of the smallness of the sample sizes in some comparisons,

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4. The lags are those specified and used in Dyer and McHugh (1975).

but also because both Dyer and McHugh (1975) and Davies and Whittred (1979) found their distributions to be non-normal, positively skewed and leptokurtic and it seemed likely that those results would be mirrored here.

As previously observed, the majority of the tests undertaken in this study are two-sample comparisons. Quite simply, the null hypothesis in every instance is that the various samples all come from the same population. The alternative hypotheses are mainly directional and are considered below. Because of the small number of observations in the 'Unable to Form an Opinion' and the 'Not True and Fair' categories it was decided to group these together for the purposes of any comparisons. The results in Table 3 indicate that such a procedure is reasonable in that the reporting behaviour of these two groups is essentially identical. That is, since in each case, the observed Mann-Whitney *U* statistics are greater than the critical *U*'s our decision is to accept the null hypothesis of no difference.

Table 3
U Tests of the Homogeneity of Lags for Companies which Receive Disclaimers of Opinion and Adverse Opinions[a]

Lag	*Observed U*	*Critical U* $\alpha = .05$	$\alpha = .02$
Preliminary Lag (12:8)	45.0	22	17
Auditors' Signature Lag (16:9)	53.0	37	31
Total Lag (16:9)	54.5	37	31

a. Critical Values of *U* are for Two-tailed tests; Numbers in brackets represent class sizes for Disclaimer and Adverse Opinions respectively.

The problem also arises that the various sample members do not all come from the same point in time, and we have little reason to expect that the reporting behaviour of Australian companies (qualified or clean) has remained stable over the 10 year test period, 1965-74. As a consequence, tests were initially undertaken to determine whether the defined reporting lags for each of the 3 samples have remained stationary over time. A Kruskal-Wallis one-way analysis of variance was employed to determine whether the observed lags in each year of the test period could reasonably have come from the same population. For the purposes of this test it was decided to group together (as indicated in Table 1) sample observations falling in the period 1965-70 inclusive, because the maximum number of observations in any one of these 6 years was only 4. From the results in Table 4 it can be determined that none of the Kruskal-Wallis (H) statistics is significant at $\alpha = .01$, whilst only one such statistic is significant at $\alpha = .05$. On the basis of this evidence it was decided to use an aggregate two-sample analysis rather than a year by year (two-sample) analysis, in all subsequent tests.

Table 4
H Tests of the Homogeneity of Lags over the Test Period

	Clean		
	Preliminary Lag	*Auditors' Signature Lag*	*Total Lag*
H Statistic	4.8	2.0	2.6
Class sizes[a]	20:20:20:30:30	20:20:20:30:30	20:20:20:30:30
	Subject to		
H Statistic	4.1	11.0*	6.1
Class sizes	11:7:12:31:25	15:9:13:30:28	13:9:12:30:27
	Serious		
H Statistic	8.3	2.0	1.0
Class sizes	6:3:2:4:5	6:4:4:4:7	6:5:3:4:7

* Significant at $\alpha = .05$ only.

a. Class sizes are for the periods 1965-70, 1971, 1972, 1973, 1974. Maximum class sizes are indicated in Table 1.

6.3 The Time Lag Distributions

Quartile distributions of the defined corporate reporting lags for companies in the three sample sets are given in Table 5. The means of the various lags and the number of observations in each category are also provided. Missing observations (announcement dates) account for the slight variation in sample size across lags.

Table 5
Quartile Distribution of Corporate Reporting Lags
Number of Days

rcent of irms	Preliminary Lag			Auditors' Signature Lag			Total Lag		
	Clean	Subject to	Serious	Clean	Subject to	Serious	Clean	Subject to	Serious
25	49	59	102	66	81	127	90	101	144
50	72	81	121	86	97	150	106	123	164
75	96	105	161	103	126	169	124	140	179
an	76	88	138	86	106	157	107	124	169
	120	86	20	120	98	25	120	94	25

The results in Table 5 indicate that the incidence of an audit qualification does appear to affect a corporation's reporting behaviour. Over the test period, companies which received 'Clean' audit reports took, on average, 107 days (some 3½ months) to release their annual report to the market. Companies which received 'Subject to' qualifications took, on average, an additional 17 days (2½ weeks) to make their annual accounts public; whilst those receiving relatively 'Serious' audit qualifications appear to have had the release of their accounts delayed, on average, by 62 days - an additional 2 months.

The preliminary lag signals the end of the period during which there is little or no information released by companies on the results of the year's operations. For this reason considerable emphasis is placed on the preliminary profit report by both the Stock Exchanges and the investing public. Over the test period the average, unqualified company took 76 days to release its preliminaries. In stark contrast to this is the 138 days (almost double the time) it took

companies receiving serious audit qualifications to announce their preliminary results. The incidence of a 'Subject to' qualification appears to delay the release of the preliminary results by about 2 weeks (12 days).

The results for the auditors' signature lags show the same general tendency. Thus the more serious the qualification the greater the defined reporting lag.

To test the significance of the observed results a three-way, two-sample (Mann-Whitney) comparison was conducted. The results of this test appear in Table 6.

Table 6
U Tests of the Homogeneity of Lags
By Type of Qualification

	Preliminary Lag		
	Serious/Subject to	*Subject to/Clean*	*Serious/Clean*
One-tailed probability associated with observed *U*	< .00003	.0314*	< .00003
Class sizes	20:87	86:120	20:120
	Auditors' Signature Lag		
One-tailed probability associated with observed *U*	< .00003	< .0007	< .00003
Class sizes	25:98	95:120	25:120
	Total Lag		
One-tailed probability associated with observed *U*	< .00003	< .00003	< .00003
Class sizes	25:94	91:120	25:120

* Significant at $\alpha = .05$ only

Table 6 presents the one-tailed probability of observing Mann-Whitney U statistics, at least as large as those observed, under the null hypothesis of no difference. In all but one case the observed U's are significant at $\alpha = .01$. Thus we confirm the first two hypotheses formulated in Chapter 5.4. The defined reporting lags on consolidated accounts containing 'Serious' qualifications are greater than the corresponding lags on accounts containing 'Subject to' qualifications; and the latter are in turn greater than the equivalent lags on consolidated accounts which are not qualified.

In Chapter 5.4 it was also hypothesized that the subject matter of a qualification would affect the length of a corporation's reporting lags. To test this hypothesis the 100 'Subject to' qualifications were classified into one of six categories as indicated in Table 2. A Kruskal-Wallis one-way analysis of variance was employed to determine whether or not these 6 groups could all have come from a population of the same mean. From the results presented in Table 7 it can be determined that when qualifications are grouped according to their subject matter, there are no significant differences (at $\alpha = .01$) in their reporting behaviour.

Table 7
H Tests of the Homogeneity of Lags
By Subject Matter

	Subject to		
	Preliminary Lag	*Auditors' Signature Lag*	*Total Lag*
H Statistic	6.2	5.2	2.2
Class sizes[a]	18:11:27:11:6:14	21:13:27:12:9:16	19:13:27:11:8:16

a. Classes are constructed by Type of Qualification - Multiple, Valuation etc. Maximum class sizes are given in Table 2.

6.4 Causal Variables

To show, as we have in the preceding section, that the reporting attributes of companies which receive qualified audit reports are different from those of companies which are not qualified does not allow us to conclude that it is the qualification *per se* that is responsible for the difference. For instance, it is possible (although it appears unlikely) that those companies which receive qualifications come from a (significantly) different subset of the population of listed companies. Stronger evidence of this issue would be provided if it could be shown that the reporting behaviour of companies in the year of qualification was significantly different (longer) than 'normal'. A problem arises however as to what constitutes a company's 'normal' reporting behaviour. Two solutions were adopted here. In the first a company's normal reporting behaviour was defined to be the same as that occurring in the year immediately preceding the qualification. In the second it was defined to be the mean total lag for the preceding three years. In this way 'normal' lags were specified for every sample member and compared with the equivalent lags in the year of qualification. Table 8 presents the results of these comparisons for the latter strategy, although the results for the former were almost identical.

The one-tailed probabilities reported in Table 8 indicate that for both samples the total lag in the year of qualification was significantly longer than usual. The Wilcoxon Matched-Pairs Signed-Ranks test is employed here since it is likely that an individual company's reporting behaviour in any one year is related to its behaviour in preceding years. Thus it would be inappropriate to employ a test (such as the Mann-Whitney) which relies on the assumption of independence.

Table 8
Wilcoxon Matched-Pairs Signed-Ranks Test for the Homogeneity of Total Lag in the Year of Qualification with Companies' 'Normal' Lag

	Total Lag	
	Subject to	*Serious*
One-tailed probability of observed Wilcoxon Statistic	.0028	.0001
Sample size	85	22

This fact is highlighted in Table 9.

Table 9
Quartile Distribution of Total Lags
Year Preceding Qualification

Percent of Firms	*Total Lag*	
	Subject to	*Serious*
25	96	121
50	111	143
75	138	161
Mean	117	141
n	82	20

The mean total lag in companies receiving 'Subject to' qualifications in the year preceding qualification is 117 days - some 7 days less than the total lag in the year of qualification. In fact, Table 9 indicates that 50% of the companies were reporting something up to 12 days earlier in the year preceding qualification. For some reason this reduction in number of days lag does not carry through to the 3rd quartile - which when compared with that in the year of qualification suffers only a minor (2 day) reduction. The total reporting lag in the year preceding relatively 'Serious' qualification is 28 days less

than the equivalent lag in the year of qualification. A Mann-Whitney comparison also reveals this lag to be significantly longer than the total lag on unqualified companies.[5]

This latter result is hardly surprising. These qualifications, by their nature, usually only arise in complex and difficult situations. Table 2 indicates that approximately 46% of these qualifications were classified as multiple and that a further 23% related to the valuation of assets. It seems reasonable to expect that the factors which ultimately result in qualifications with respect to the future profitability of a company, the value of its major receivables or other assets (such as motel chains, major land development projects etc.) or its lack of internal control with the resulting consequent of inadequate or incorrect records; do not arise instantaneously but rather accumulate over several accounting periods. If this is so, then it might be expected that total reporting lags would increase in each of several periods as auditors expand their procedures to cope with such situations.

6.5 Summary and Implications for Tests of Information Content

The results of the research presented herein indicate that 'first time' qualifications are associated with a delay in the release of companies' preliminary profit and final annual reports and that, in general, the more serious the qualification, the greater the delay.[6]

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5. The difference is 34 days, and the one-tailed probability associated with the observed U is less than .00006. The equivalent difference on companies receiving 'Subject to' qualifications is 10 days. The one-tailed probability in this instance being .06. Whilst strictly speaking this result is not significant it is sufficiently low to be a cause of some concern.

6. The reasons for this phenomena are not directly relevant to the present research; they are considered in Whittred (1979).

However, it appears that a company's reporting behaviour is independent of the content of such qualifications (at least as far as 'Subject to' qualifications are concerned).

These results indicate that it is possible, given knowledge of a corporation's usual reporting behaviour, to predict the incidence of an audit qualification. Such knowledge is not uncommon, particularly since most corporations adopt a policy of forwarding (or attempting) to forward their accounts to the Stock Exchange and their shareholders at about the same time (if not the same day) each year. Not only does it seem possible to predict the incidence of an audit qualification, but it seems likely that the particular type of qualification may also be ascertainable. This is so because of the markedly different effects that the various types of qualification have on a corporation's reporting behaviour.

The possibility of qualification becomes evident when a company's preliminary profit report takes longer to reach the market than average - 12 days for 'Subject to' and 62 days in the case of 'Unable to Form an Opinion' and 'Not True and Fair' qualifications. Thus, as the period of time between a company's usual preliminary report date and the present increases, so too does the probability of a particular type of qualification.

These results suggest that if there is any abnormal price or rate of return behaviour associated with an audit qualification, it could occur anywhere in the 48 to 93 days (depending on the type of qualification) preceding the release of a company's annual report. That is,

the period between the average (unqualified) preliminary report date and the release of the annual accounts containing the qualification. These observations suggest a minimum time horizon of 3-4 months for the residual analysis of the following chapter.

CHAPTER 7

EMPIRICAL RESULTS: TESTS FOR INFORMATION CONTENT

The research method employed in this section of the study has previously been described (Chapter 5). The purpose of this Chapter is to describe the data sources used and the techniques employed in estimating the parameters of the 'market model'; and to present the results of the investigation into the effect of qualified audit reports on corporations' share price.

7.1 Data

The sample of qualifications employed in this section of the study were selected from the data file described in Chapter 4 after first imposing the following constraints. Qualifications which were repeated in subsequent years in the accounts of any one company were excluded. Qualifications occurring on companies which went into receivership or liquidation at any time during the 14 years covered by the file and qualifications occurring within 6 months of a takeover were also excluded. These procedures were adopted in attempt to minimize the problems associated with companies experiencing 'risk shifts'. Only those 'Depreciation on Buildings' qualifications which occurred on companies listed on Brown's *909 Price Relative File*[1] were regarded as eligible for inclusion - for the simple reason that this minimized the additional data collection requirements considered below.

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1. This file is an expanded version of the Brown *651 Price Relative File* described in Ball, Brown and Finn (1977).

The announcement date of each audit qualification was taken as the date stamped on the annual reports (containing the qualification) as they reached the Sydney Stock Exchange. In those instances in which it was possible to identify the date on which the accounts reached the company's home exchange (which may be other than Sydney), the earlier of the two dates was taken.[2]

Dividends and other changes in the basis of quotation (such as bonus and rights issues, share splits etc.) which occurred during the relevant period were required in order that adjusted weekly rates of return might be calculated. For qualifications occurring prior to January, 1972 the relevant data were extracted from either the monthly *Gazette of the Sydney Stock Exchange*, the monthly *Official Record of the Stock Exchange of Melbourne* or *The Australian Financial Review*. For qualifications occurring since that date, the *Australian Stock Exchange Journal* was utilized.

Share price data were gathered predominantly from *The Australian Financial Review*,[3] care being taken to ensure that each price reported therein was an actual (transactions) price for the last trade in any particular week. In this regard reliance was placed on 'volume traded' statistics reported with the daily prices. If prices were not accompanied by volume traded data, they were judged to be either averages of 'bid' and

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2. There were few such instances. In each case there was only 1 or 2 days difference in the date of receipt.

3. Dr. A.D. Castagna also made available a large number of prices. The files from which this data was abstracted are described in Castagna (1976).

'ask' or prices from previous weeks and were recorded as 'no trades' for that particular week. Qualifications for which either the terms, or the announcement date, of a change in the basis of quotation could not be determined and those for which insufficient price data was available were excluded from the analysis.

The final sample comprises some 227 qualifications on 199 different companies over the 11 year period 1964 to 1974. Tables 1 and 2 provide a summary description of the data.

Table 1
Information Content Sample
Distribution of Audit Qualifications
By Type of Qualification and Year

Type of Qualification	*Year*					*Totals*
	1964-70	1971	1972	1973	1974	
Subject to:						
Multiple	9	3	8	11	10	41
Valuation of Assets	5	5	3	7	4	24
Adequacy of Provisions:						
- Depreciation on Buildings	1	2	36	18	11	68
- Other	2	7	6	3	9	27
Accounting Principles	5	1	2	5	7	20
Miscellaneous	11	2	1	10	7	31
Unable to Form an Opinion	3	2	3	-	2	10
Not True and Fair	1	3	1	-	1	6
Totals	37	25	60	54	51	227

Table 2
Information Content Sample
Distribution of Audit Qualifications
By Company

Number of Qualifications	*Number of Companies*
1	172
2	26
3	1
TOTAL	199

7.2 Estimation Methods

Efficient estimates of the market model parameters usually require a relatively large number of observations. Brown and Walter (1974) suggest that a reliable index of market returns over perhaps 50 periods, and returns over the same period for the shares whose beta we wish to calculate, are required. Thus share prices were collected for each company in the final sample for the 59 weeks preceding, the week of and the 10 weeks following, the qualification announcement date.

The index of weekly market returns employed was constructed from a random sample of 50 actively-traded industrial shares listed on the Melbourne Stock Exchange at 1 January 1964, and is employed here because of the lack of an appropriate index (over the period of this study) utilizing Sydney Stock Exchange prices.[4] It is unlikely that there are

4. The index is described fully in Brown and Walter (1974). Walter (1977) has extended the index from August through to December 1974. The latter version was employed.

any significant differences in the weekly rates of return on these exchanges given the degree of overlap in the listings and the existence of arbitrage.

The use of weekly data introduces a potentially significant 'non-trading' problem. In relatively thin markets like Australia there is a relatively high probability that any share will not be traded in a particular week,[5] and this has two major consequences. First, whilst it is possible to identify the exact week in which the qualification is released, no guarantee can be given that the last trade recorded in that week occurred after the release of the qualification. It is possible then that the first trade reflecting the information content of the qualified audit report may not have occurred until the following week. Second, there will be large numbers of companies with less than the 'required' 50 weekly rates of return on which to estimate beta. Yet many of these companies trade around the time of the release of the annual accounts and are potentially worth investigating. This problem was overcome as follows.

Firms' betas were estimated by Ordinary Least Squares over the entire period for which weekly prices were collected - subject to a minimum of 10 available observations. The exact form of the estimating model was:

$$\tilde{r}_{it} = \alpha_i + \beta_i \tilde{r}_{mt} + \tilde{\varepsilon}_{it} \qquad [1]$$

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5. Whittred (1975) reports a probability of 26 per cent.

where: $\tilde{r}_{it}$ = log $(\tilde{P}_{it}/\tilde{P}_{i,t-1})$, the weekly return on the stock of firm i computed as the natural logarithm of the change in *adjusted* weekly prices;

$\tilde{r}_{mt}$ = log $(\tilde{I}_{mt}/\tilde{I}_{m,t-1})$, where $\tilde{I}_{m}$ is the Walter Index described above; and

$\tilde{\varepsilon}_{it}$ = a residual reflecting that portion of the weekly return on security i which is independent of the market return.

Each firm's estimated beta was then compared to the population mean of unity and if the absolute value of the t-statistic resulting from this comparison was less than 1.0, then the estimated beta was set equal to unity (an unbiased estimate in the absence of any other information).

This procedure was employed in Ball, Brown and Finn (1977) with essentially the same results as those methods entailing more stringent data requirements. Essentially, the procedure reduces the 'market model' estimated for certain firms to the following naive form:

$$\tilde{r}_{it} = \tilde{r}_{mt} + \tilde{\varepsilon}_{it}$$

That is, it effectively assumes [$\alpha = 0$, $\beta = 1$] - a specification that is surprisingly robust, largely because the ex post risk premium over the period is not large and the percentage of return variation (on a weekly basis) explained by the market model is usually quite small.[6]

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6. This specification has been adopted in a number of studies, e.g. Brown, Finn and Hancock (1977) and Ball, Walker and Whittred (1979). Its efficiency has been favourably compared to that of more sophisticated models in a simulation conducted by Brown and Warner (1978).

The possibility of an 'anticipation' effect (discussed in the preceding chapter) also creates a potential estimation problem. Estimating the O.L.S. regression parameters over the entire period for which prices are available involves estimating over a period which incorporates some 7 to 14 weeks during which abnormal returns might be expected to arise. The usual procedure is to delete these observations from the estimation period. This procedure was not adopted here. Given the estimation technique described above it would have resulted in a reduced sample size - and as can be seen from Table 1 some of the samples are already quite small. However, the problem is not believed to be a major one since preliminary runs which adopted this procedure gave essentially the same results as those reported here.

Consider now a world characterized by the Sharpe-Lintner C.A.P.M. The release of an audit qualification may alter the marginal return distribution of any given security. Given the arguments of Chapter 5.1 and 5.2, the observable disturbance term $\tilde{\varepsilon}_{it}$[7] defined as:

$$\tilde{\varepsilon}_{it} = \tilde{r}_{it} - \hat{\alpha} - \hat{\beta}_i \tilde{r}_{mt}, \qquad [2]$$

is an estimator for the effect of a qualification on any security's marginal return distribution. If time is defined relative to the date of release of an audit qualification, then the residuals $\tilde{\varepsilon}_{it}$ from [2] for different securities at τ periods before and after this date can be averaged across securities to obtain a sample average residual (or abnormal rate of return) at time τ:

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7. The 'conditionals' have been dropped for ease of exposition.

$$\widetilde{AR}_{\tau} = \frac{1}{N} \sum_{i=1}^{N} \tilde{\varepsilon}_{i\tau}$$

The abnormal behaviour cumulated from q-periods prior to the event date to the end of any period τ is given by the cumulative average residual:

$$\widetilde{CAR}_{\tau} = \sum_{t=-q}^{\tau} AR_{\tau}$$

where q = the number of prior periods the experimenter wishes to investigate.

7.3 Results

The average residuals and cumulative average residuals for each test are reported in Tables 3 and 4, and plotted in Figures 1 through 7. The Z-statistics reported in Table 5 test the null hypothesis that the abnormal return earned by investing in a portfolio of firms which receive a qualified audit report in any week (τ) is zero. The procedure adopted to compute these statistics is relatively complex and is described in Appendix 1. Note that the absence of recorded trades in individual securities leads to the average residuals in any week being estimated over a different number of observations. Thus the sample size reported at the bottom of each table is the maximum number of observations available in any week for the relevant sample.

7.3.1 By Type of Qualification

In Chapter 2.4.1 it was argued that the effect that qualified audit reports have on share price ought, in the first instance, to be assessed

according to the particular type of qualification rendered. Consequently, the 227 qualifications identified in Table 1 were broken down into two samples; comprising the 211 'Subject to' qualifications and the 16 relatively more'Serious' qualifications. The latter sample was in turn comprised of 10 'Unable to Form an Opinion' and 6 'Not True and Fair' qualifications. The rationale for combining these groups (as in Chapter 6.2) relates to the smallness of the samples.

Table 3 indicates that over the year preceding the incidence of a 'Subject to' qualification sample members earn a negative abnormal return of 2.5 per cent. In the week, indeed the month, in which the qualification is announced there are no statistically significant price revisions. However whilst 'Subject to' qualifications, on average, have no effect on share price it is apparent that they normally occur on companies that have been doing 'worse' than expected for some time.

The sample of 'Subject to' qualifications includes some 68 qualifications relating to 'Depreciation on Buildings'. Because Ball, Walker and Whittred (1979) find these qualifications to be associated with statistically significant positive price revisions, and because it is this group which is most likely to be affected by the presence of cross-sectional correlation (refer Appendix 1), the price behaviour of the sample of 'Subject to' qualifications excluding the 'Depreciation on Buildings' sub-groups was also examined.

Table 3
Abnormal Returns around Announcement Week
By Type of Qualification

Week	*Subject to*		*Subject to - excluding Depreciation*		*Serious*	
	A.R.	*C.A.R.*	*A.R.*	*C.A.R.*	*A.R.*	*C.A.R.*
-24	-0.0051	-0.0107	-0.0022	0.0105	0.0414	-0.1015
-23	-0.0067	-0.0174	-0.0085	0.0020	-0.0123	-0.1139
-22	0.0084	-0.0091	0.0143	0.0163	0.0162	-0.0977
-21	-0.0055	-0.0145	-0.0056	0.0107	-0.0247	-0.1224
-20	-0.0011	-0.0156	-0.0014	0.0093	-0.0027	-0.1251
-19	0.0009	-0.0147	-0.0055	0.0038	0.0094	-0.1157
-18	-0.0074	-0.0221	-0.0011	0.0027	0.0073	-0.1084
-17	-0.0036	-0.0258	-0.0021	0.0006	-0.0402	-0.1486
-16	-0.0011	-0.0268	-0.0036	-0.0030	0.0351	-0.1135
-15	-0.0018	-0.0286	-0.0086	-0.0116	0.0039	-0.1096
-14	-0.0052	-0.0339	-0.0054	-0.0171	0.0309	-0.0787
-13	0.0050	-0.0288	-0.0005	-0.0175	0.0247	-0.0541
-12	-0.0048	-0.0336	-0.0020	-0.0195	0.0103	-0.0438
-11	0.0049	-0.0287	0.0075	-0.0120	-0.0271	-0.0709
-10	0.0042	-0.0245	0.0075	-0.0045	0.0310	-0.0399
-9	0.0048	-0.0197	0.0076	0.0031	0.0138	-0.0261
-8	0.0033	-0.0164	-0.0040	-0.0009	-0.0080	-0.0341
-7	-0.0071	-0.0235	-0.0135	-0.0144	0.0056	-0.0284
-6	-0.0035	-0.0270	-0.0042	-0.0186	-0.0104	-0.0388
-5	0.0136	-0.0234	0.0075	-0.0111	0.0093	-0.0295
-4	-0.0067	-0.0301	-0.0044	-0.0155	-0.0007	-0.0302
-3	0.0076	-0.0225	0.0067	-0.0089	-0.0305	-0.0607
-2	-0.0004	-0.0229	-0.0079	-0.0168	0.0234	-0.0372
-1	-0.0053	-0.0283	-0.0072	-0.0240	0.0067	-0.0305
0	0.0036	-0.0247	0.0030	-0.0210	-0.0192	-0.0496
1	0.0052	-0.0194	0.0037	-0.0174	-0.0178	-0.0675
2	0.0009	-0.0186	-0.0063	-0.0236	0.0134	-0.0541
3	0.0089	-0.0097	0.0101	-0.0136	-0.0283	-0.0823
4	-0.0033	-0.0130	-0.0015	-0.0150	0.0174	-0.0650
5	-0.0015	-0.0145	-0.0030	-0.0181	0.0066	-0.0584
Sample size	211		143		16	

Table 4
Abnormal Returns Around Announcement Week
By Subject Matter of Qualification

Week	Multiple		Valuation		Depreciation		Provisions		Accounting Principles		Miscellaneous	
	A.R.	C.A.R.	A.R.	C.A.R.	A.R.	C.A.R.	A.R.	C.A.R.	A.R.	C.A.R.	A.R.	C.A.R.
-24	0.0181	-0.0013	-0.0216	0.0174	-0.0104	-0.0497	-0.0135	-0.0240	0.0013	0.0451	-0.0052	0.0459
-23	-0.0259	-0.0272	-0.0073	0.0101	-0.0031	-0.0527	0.0057	-0.0183	0.0050	0.0501	-0.0064	0.0395
-22	0.0381	0.0109	-0.0065	0.0037	-0.0042	-0.0570	0.0311	0.0128	-0.0036	0.0465	0.0009	0.0404
-21	-0.0195	-0.0087	0.0077	0.0114	-0.0052	-0.0622	0.0093	0.0221	0.0017	0.0482	-0.0113	0.0290
-20	0.0003	-0.0086	-0.0113	0.0011	-0.0004	-0.0625	0.0198	0.0419	-0.0016	0.0466	-0.0087	0.0203
-19	-0.0145	-0.0231	-0.0063	-0.0052	0.0141	-0.0485	-0.0069	0.0350	-0.0092	0.0374	0.0082	0.0285
-18	-0.0034	-0.0265	0.0079	0.0027	-0.0200	-0.0685	-0.0017	0.0333	-0.0047	0.0326	-0.0024	0.0261
-17	0.0035	-0.0230	0.0041	0.0068	-0.0065	-0.0749	-0.0148	0.0185	-0.0115	0.0212	-0.0014	0.0247
-16	-0.0109	-0.0340	-0.0014	0.0054	0.0034	-0.0715	-0.0005	0.0180	-0.0047	0.0165	0.0033	0.0280
-15	-0.0005	-0.0344	-0.0293	-0.0239	0.0113	-0.0602	-0.0130	0.0050	-0.0069	0.0096	-0.0008	0.0272
-14	0.0085	-0.0259	-0.0081	-0.0320	-0.0049	-0.0652	0.0114	0.0164	-0.0309	-0.0213	-0.0161	0.0111
-13	0.0013	-0.0246	0.0142	-0.0178	0.0139	-0.0512	-0.0183	-0.0019	0.0003	-0.0210	-0.0014	0.0097
-12	0.0043	-0.0203	-0.0093	-0.0271	-0.0094	-0.0606	-0.0159	-0.0178	-0.0052	-0.0263	0.0099	0.0195
-11	0.0209	0.0006	-0.0000	-0.0271	0.0012	-0.0594	0.0050	-0.0128	0.0020	-0.0242	0.0015	0.0210
-10	0.0174	0.0180	0.0028	-0.0243	-0.0007	-0.0601	-0.0007	-0.0135	0.0103	-0.0140	0.0043	0.0253
-9	-0.0111	0.0069	0.0136	-0.0057	-0.0001	-0.0602	0.0330	0.0194	0.0075	-0.0065	0.0042	0.0295
-8	0.0143	0.0213	0.0004	-0.0053	0.0160	-0.0442	-0.0360	-0.0165	-0.0050	-0.0115	-0.0068	0.0228
-7	-0.0171	0.0042	-0.0059	-0.0112	0.0042	-0.0399	-0.0083	-0.0249	0.0150	0.0035	-0.0317	-0.0089
-6	0.0098	0.0140	-0.0135	-0.0247	-0.0024	-0.0424	0.0000	-0.0249	-0.0063	-0.0028	-0.0116	-0.0206
-5	0.0387	0.0527	-0.0020	-0.0267	-0.0035	-0.0458	-0.0105	-0.0354	0.0031	0.0002	-0.0108	-0.0313
-4	-0.0104	0.0423	-0.0121	-0.0388	-0.0111	-0.0569	0.0232	-0.0121	-0.0089	-0.0087	-0.0096	-0.0409
-3	-0.0044	0.0379	0.0312	-0.0075	0.0093	-0.0476	0.0067	-0.0054	-0.0259	-0.0346	0.0177	-0.0232
-2	-0.0140	0.0239	0.0005	-0.0070	0.0116	-0.0361	-0.0022	-0.0076	-0.0303	-0.0649	0.0006	-0.0226
-1	-0.0351	-0.0112	-0.0049	-0.0119	-0.0022	-0.0382	0.0074	-0.0001	0.0218	-0.0432	0.0017	-0.0209
0	0.0234	0.0122	0.0038	-0.0081	0.0047	-0.0335	-0.0065	-0.0066	0.0012	-0.0420	-0.0133	-0.0343
1	0.0047	0.0169	0.0114	0.0032	0.0084	-0.0251	-0.0016	-0.0083	0.0080	-0.0339	-0.0019	-0.0362
2	-0.0178	-0.0009	-0.0375	-0.0342	0.0133	-0.0117	0.0060	-0.0023	0.0037	-0.0302	0.0128	-0.0234
3	0.0136	0.0127	0.0174	-0.0169	0.0071	-0.0047	0.0053	0.0030	0.0208	-0.0094	-0.0027	-0.0261
4	-0.0096	0.0031	0.0110	-0.0059	-0.0060	-0.0107	0.0010	0.0040	0.0012	-0.0082	-0.0034	-0.0295
5	-0.0005	0.0026	-0.0080	-0.0138	0.0006	-0.0101	-0.0095	-0.0056	0.0122	0.0039	-0.0033	-0.0329
Sample size	41		24		68		27		20		31	

Table 5
Portfolio Z-Statistic
Abnormal Returns Around Announcement Week

Week	*Subject to*	*Subject to Ex Dep'n*	*Serious*	*Mult.*	*Val'n.*	*Dep'n.*	*Prov'n.*	*Accing. Princ's.*	*Misc.*
-24	-0.4586	0.1991	0.3938	1.1310	-0.1095	-0.9897	-0.9772	0.1761	-0.1375
-23	-0.4053	-0.4927	-0.8436	-1.3603	1.0473	-0.0307	0.3634*	0.3796	-0.8409
-22	1.2330	1.8458	0.5814	1.7629	-0.1804	-0.3440	2.2753	0.2096	-0.0882
-21	-1.8350	-1.2367	-0.5219	-0.9573	-0.2811	-1.3940	0.4082	-0.0518	-1.4744
-20	-0.2872	-0.0819	-0.1095	0.3719	-0.7998	-0.3592	0.3882	0.0839	-0.3310
-19	-0.2453	-0.8498	0.0984	-1.2258	-0.4147	0.6774	-0.5277	-0.6256	0.8654
-18	-1.5685	0.2219	0.7129	0.0657	-0.7463	-2.8055*	0.4908	-0.3493	0.8155
-17	0.1231	0.3365	-0.2732	0.4408	1.4967	-0.2264	-0.3035	-0.5369	-0.3390
-16	-0.6794	-1.0709	1.3014	-0.4760	-1.1477	0.2575	-0.7992	0.1334	-0.1931
-15	0.2184	-0.8062	0.1886	-0.1867	-0.7253	1.3692	-0.5749	-0.5660	0.0244
-14	-1.4156	-1.3027	0.5150	-0.1987	-0.2896	-0.6354	-0.2749	-2.1840*	-0.3400
-13	0.8760	-0.4656	-0.6152	-0.1457	-0.3175	1.9980*	-1.2657	-0.0707	0.5284
-12	-0.2215	0.4032	1.2506	-0.0372	-0.3139	-0.8655	0.1653	-0.7107	1.4831
-11	-0.1122	0.1135	-0.7927	0.9318	-0.0572	-0.3238	-0.0864	-0.6708	-0.2087
-10	0.3226	0.6346	0.0172	0.0423	0.7094	-0.2813	-0.3207	0.3317	0.6859
-9	-0.1645	0.5071	0.1210	-0.2355	0.4757	-0.9048	1.5343	0.2138	-0.4588
-8	0.4236	-0.8072	-0.4906	0.4211	-0.3905	1.7008	-1.0737	-0.6679	-0.4459
-7	-1.5923	-2.1615*	0.4725	-1.0858	-0.4174	0.1638	0.4063	0.0590	-3.1575*
-6	-0.6900	-0.3924	0.2003	0.0461	0.5744	-0.6157	-0.2284	-1.0787	-0.3070
-5	-0.1474	0.2583	0.4552	0.5743	0.6232	-0.5633	-0.6510	0.1705	-0.2160
-4	-0.5833	-0.1821	-0.1506	-0.2951	-0.6390	-0.7094	1.7278	0.1126	-0.9907
-3	1.0303	0.4490	-1.3554	-0.2927	1.8614	1.0924	-0.0344	-0.6740	0.3127
-2	1.1419	-0.0881	0.2594	-0.1945	0.9643	1.9500	0.4449	-1.4622	0.0197
-1	-0.9611	-0.4731	-0.1905	-2.0773*	-0.3261	-0.9505	0.4563	1.4569	0.1942
0	0.0457	-0.4236	-0.1552	0.2644	-0.3954	0.6081	-0.9301	0.0936	-0.1719
1	0.5010	-0.6963	-0.3166	-0.0817	-0.8009	1.6855	-0.3994	0.2817	-0.5765
2	0.9811	-0.3733	0.3758	-1.5568	-1.1861	2.0508*	-0.1932	0.5225	1.6765
3	2.2319*	2.0233*	-1.0984	0.9405	1.1216	1.0403	0.7378	2.0203*	0.0666
4	-1.1807	-0.8915	-0.2181	-0.8935	-0.2365	-0.7760	0.0482	0.1069	-0.7209
5	0.3457	0.2420	-1.1241	0.8271	-0.5174	0.2512	-0.8768	0.8716	0.0120

* Significant at α = .05

The interpretation of the latter results changes little. The average residual in the announcement week is still positive, though insignificantly different from zero. In the month of the announcement qualified shares earn a negative abnormal return of only ½ of one per cent. The behaviour of the average residuals over the interval [-8, -6] is however more revealing. Given the evidence in Chapter 6, it is clear that companies receiving 'Subject to' qualifications should have released their preliminary profit reports at about week -7. However it was not, on average, until about week -5 that these preliminaries reached the market. The price decline over the interval [-8, -6] is therefore consistent with an 'anticipation' effect such as that suggested in Chapter 6. Indeed over the 9 weeks preceding qualification these shares earn a negative abnormal return of some 2.4 per cent. Thus most of the price adjustment to the audit qualification occurs in the months preceding it.

As expected companies receiving relatively 'Serious' qualifications had been doing quite badly over the preceding 12 months. There is however no clear evidence of an 'anticipation' effect on these shares (perhaps because they may have been doing badly for more than the preceding 12 months).[8] The share price behaviour during the announcement week of companies receiving relatively 'Serious' qualifications stands in strong contrast to that of companies which receive 'Subject to' qualifications. In the week the qualification becomes public these

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8. Whittred (1979) reports that companies receiving relatively serious qualifications (for the first time) also take longer than normal to release their accounts in the year preceding qualification.

shares earn a negative abnormal return of 1.92 per cent. This decline continues in the first week after the announcement - a negative abnormal return of 1.78 per cent. Thereafter the average residuals fluctuate randomly around their expected value of zero[9] - as do (with the exception of Week +3) the average residuals for both of the 'Subject to' samples.

7.3.2 By Subject Matter of Qualification

Audit qualifications are not homogeneous and some appear more likely to convey information, or to be associated with information generating events, than others (refer Chapter 2.4.2). For this reason the sample of 'Subject to' qualifications was broken down into its component sub-groups (identified in Table 2) with average residuals and cumulative average residuals being generated for each.

The results in Table 4 indicate that in only two instances (out of 6) is the average residual in the announcement week negative (Provisions, Miscellaneous) and in neither is it significant (refer Table 5).

Once again it is the behaviour of the pre-announcement residuals, particularly those over the interval [-8, -1] that is revealing. It is over this interval that any price adjustments due to anticipation of the qualification are likely to occur. Individually most of the

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9. The larger variation in the post-announcement residuals for this group is probably attributable to the much smaller sample size (N = 16).

average residuals over this interval for each of the sub-samples are not significant. However, there is generally a consistent and marked downturn in the C.A.R. during these weeks. This is interpreted as evidence of an 'anticipation' effect. This result stands in strong contrast to Firth (1978, p.648) who reports that:

> Prior to day 0 there were no significant build-ups of residuals for any of the audit qualification types.

Firth studied the share price behaviour of companies receiving qualified audit reports over a 40 day period centred on the announcement date. The difference in results might be partially explained by the fact that, given the evidence presented in Chapter 5, a 20 day pre-announcement period is unlikely to capture the complete price adjustment to the qualification - much of which will have occurred some weeks earlier when the preliminaries were delayed. Amongst other variables, the difference in the 'type' and 'subject matter' of the qualifications studied and the grouping procedures employed may also partially account for the difference.

There are two sets of results which require special comment. First, Ball, Walker and Whittred (1979) report that 'Depreciation on Buildings' qualifications are associated with positive price revisions in the announcement week. However, in contrast to their results, the price revision observed here is not significant. Indeed, these qualifications appear to have had little effect on share prices. Second, both the 'Depreciation on Buildings' sample and the 'Accounting Principles' sample exhibit a pronounced post-announcement upward drift. These

results are attributable to the (isolated) occurrence of significant abnormal returns in weeks +2 and +3 respectively. These abnormal returns appear to bear no relation to the preceding qualification, and in the latter case may be simply sampling variation due to the small sample size. It is this result which presumably accounts for the significant average residual in week +3 for the 'Subject to' samples as a whole (Table 3).

In the remaining samples the post-announcement residuals fluctuate randomly around their expected value of zero. This is consistent with the hypothesis that the capital market responds efficiently (i.e. immediately and in an unbiased manner) to the release of the final annual accounts containing the audit qualification. The lack of significant price revisions (in either direction) in the announcement week is also evidence that the stock market does not regard the release of the final annual report as a particularly 'newsworthy' or 'information generating' event.

Figure I
Abnormal Returns
By Type of Qualification

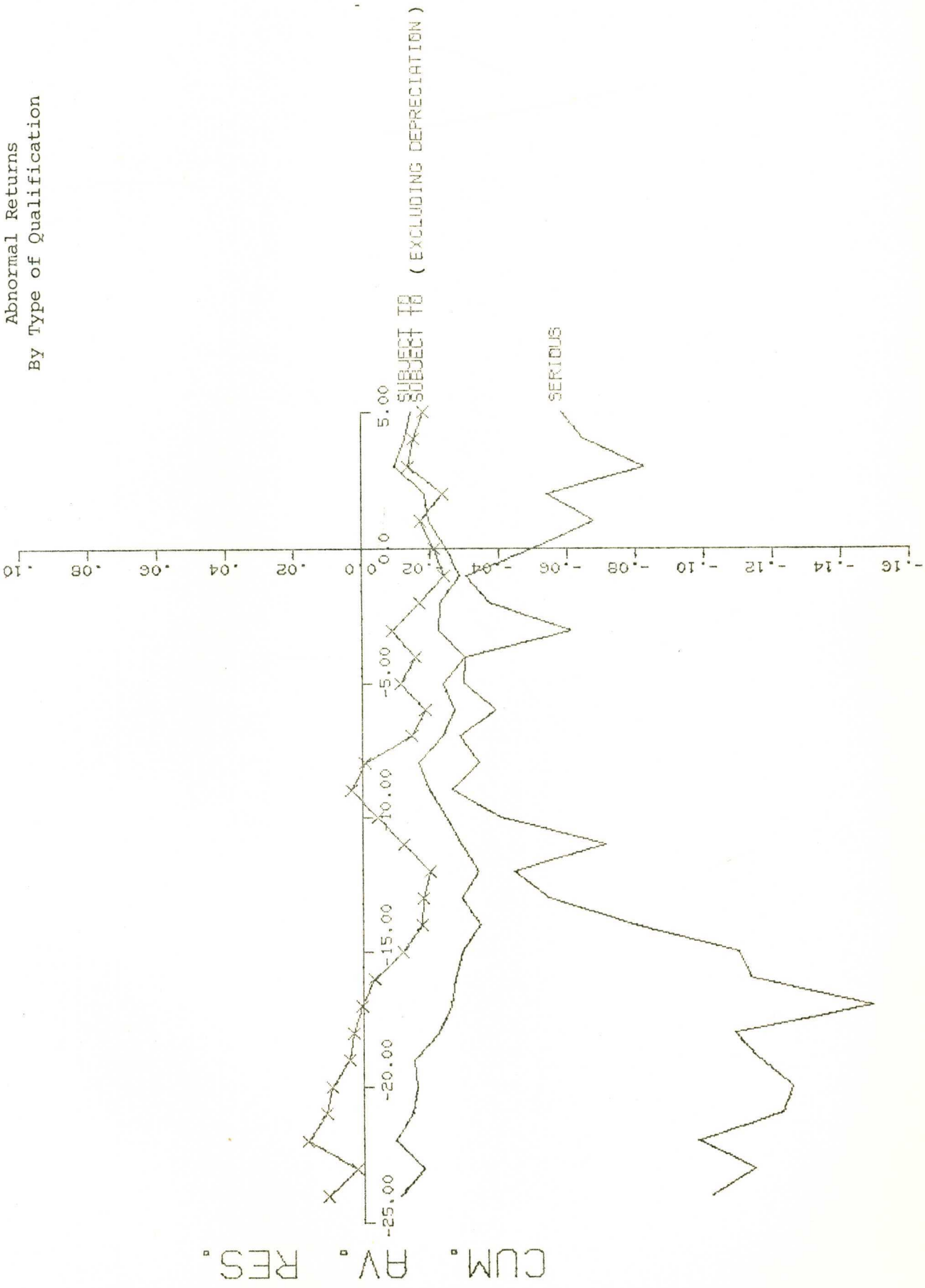


Figure II
Abnormal Returns
Multiple Qualifications

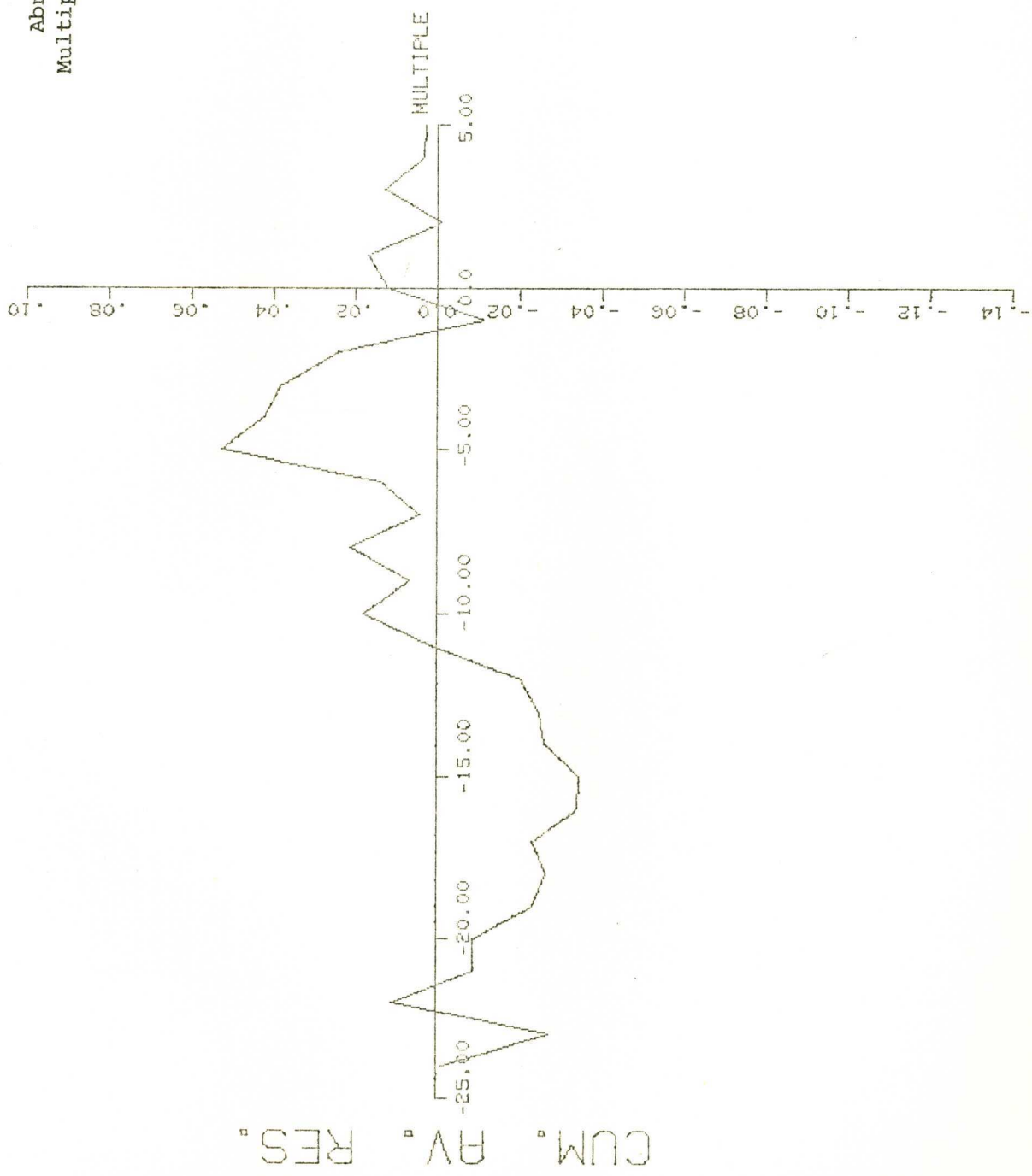


Figure III
Abnormal Returns
Valuation Qualifications

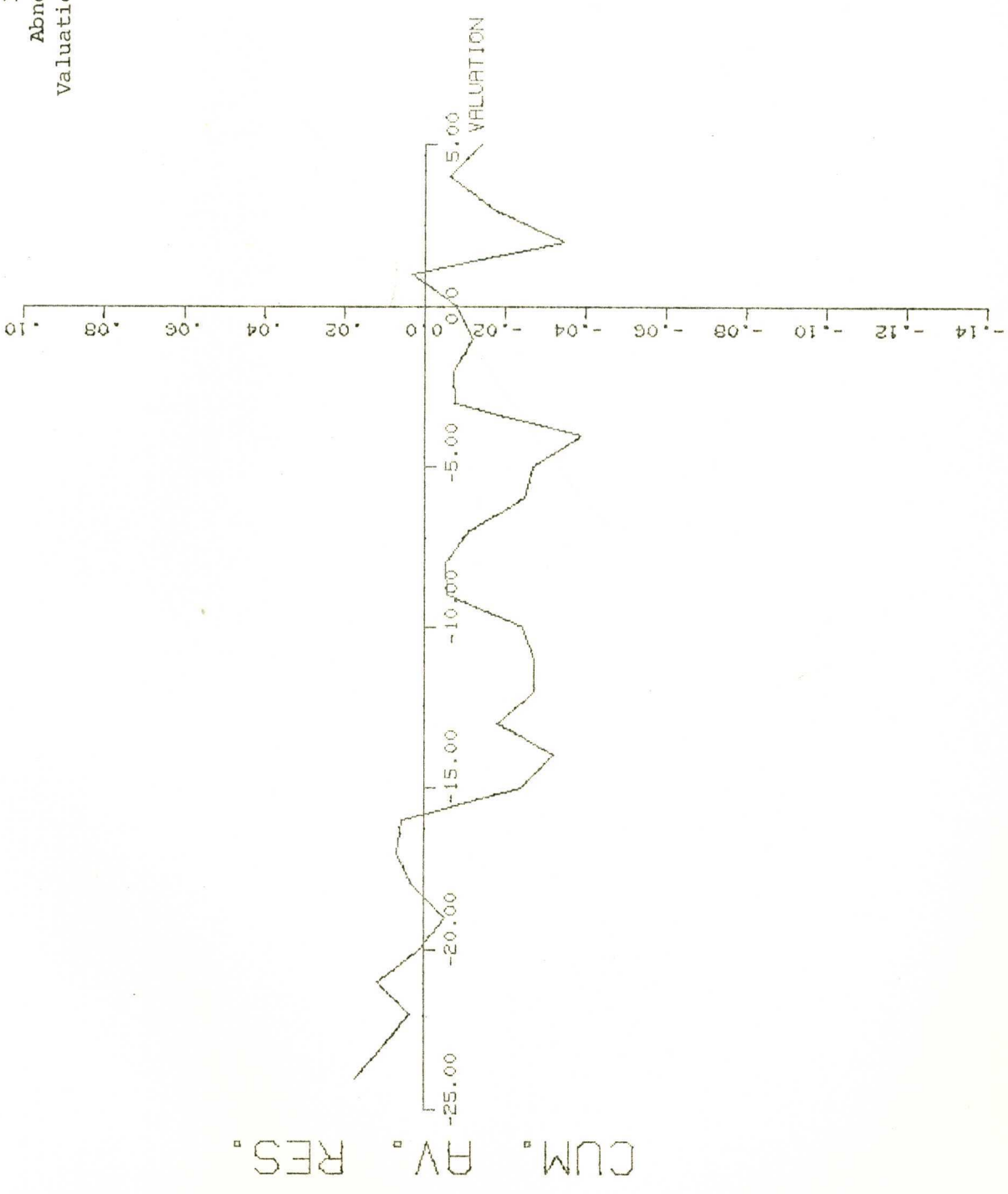


Figure IV
Abnormal Returns
Depreciation on Buildings

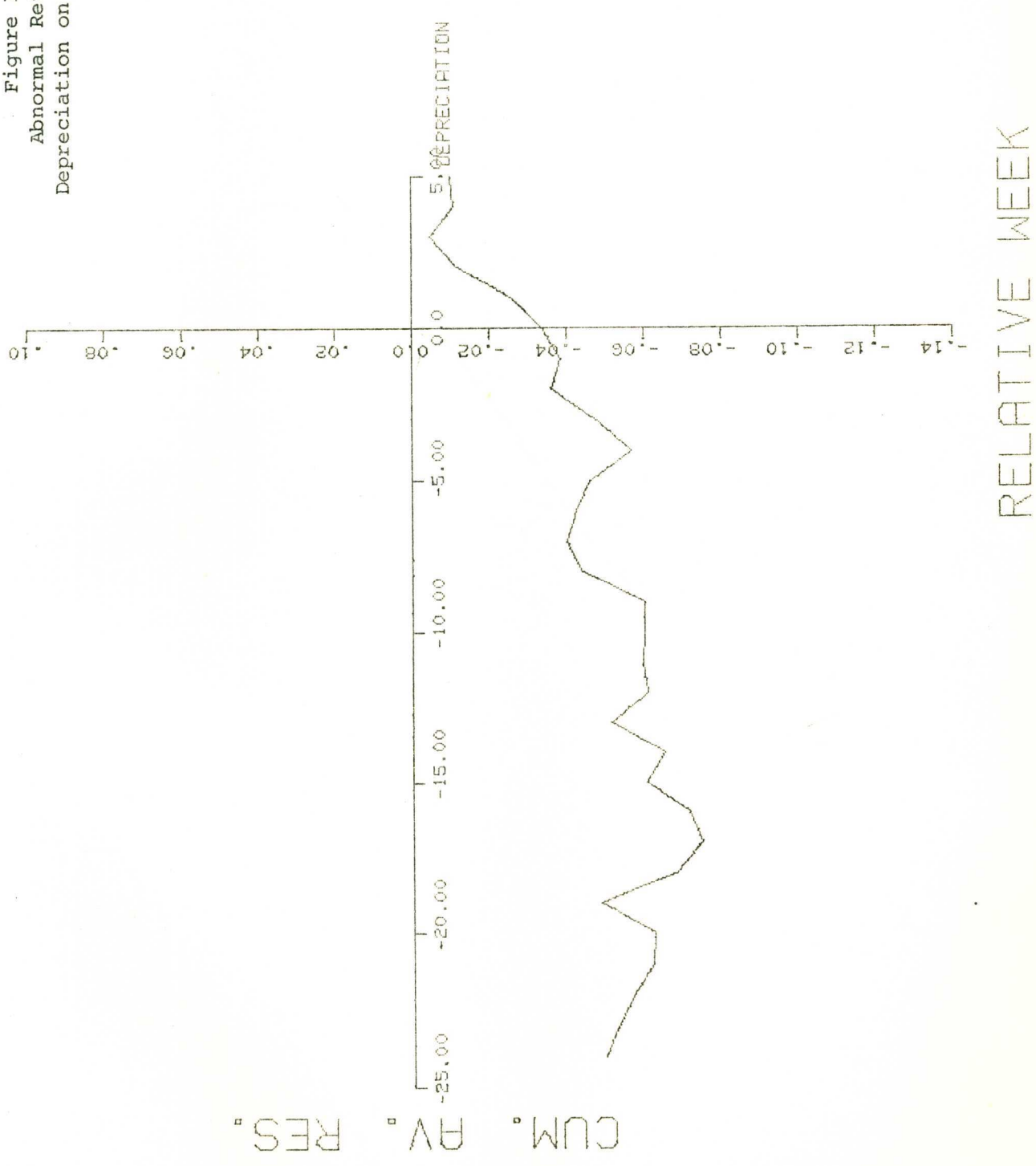


Figure V
Abnormal Returns
Other Provisions Qualifications

Figure VI
Abnormal Returns
Accounting Principles Qualifications

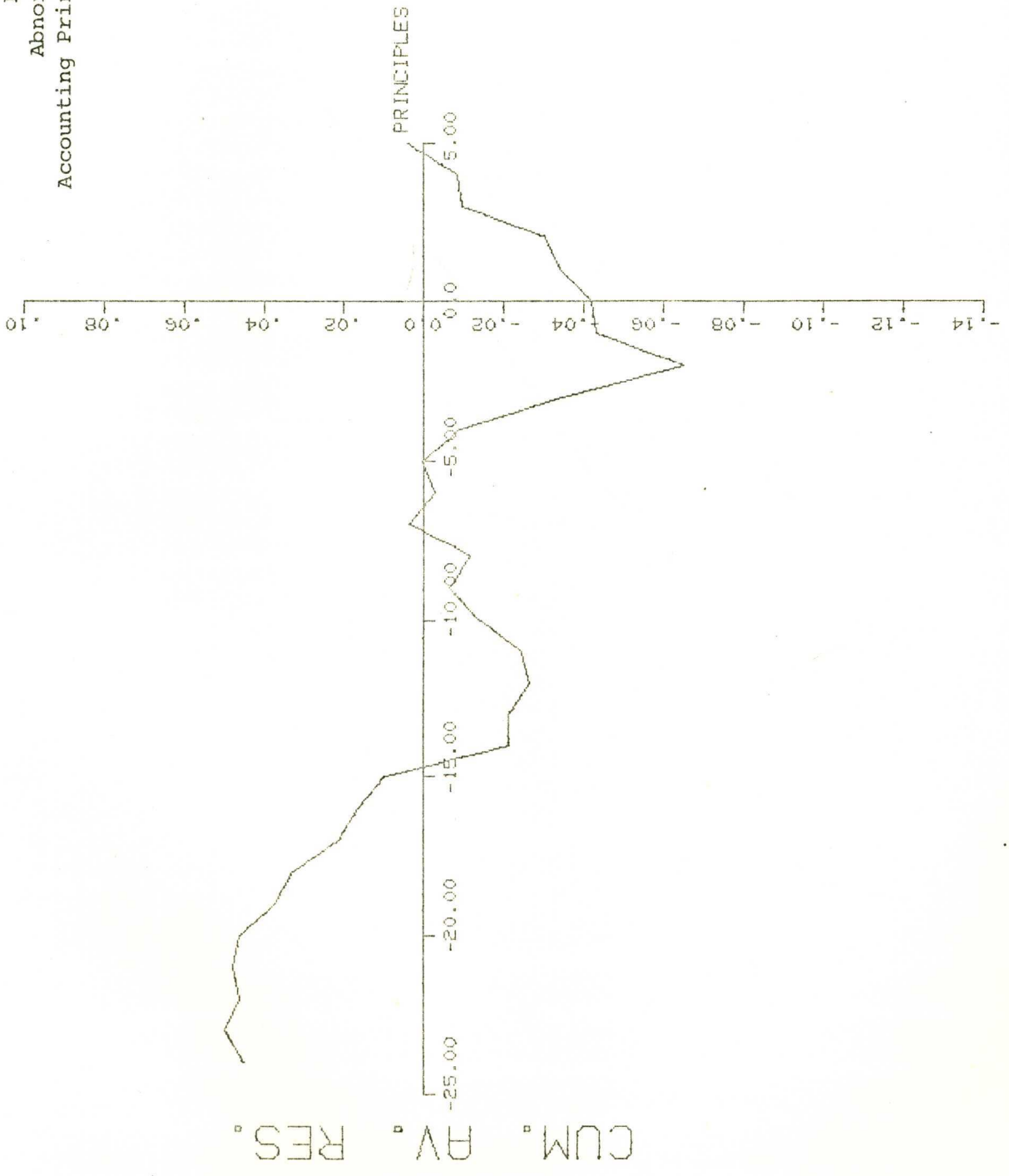
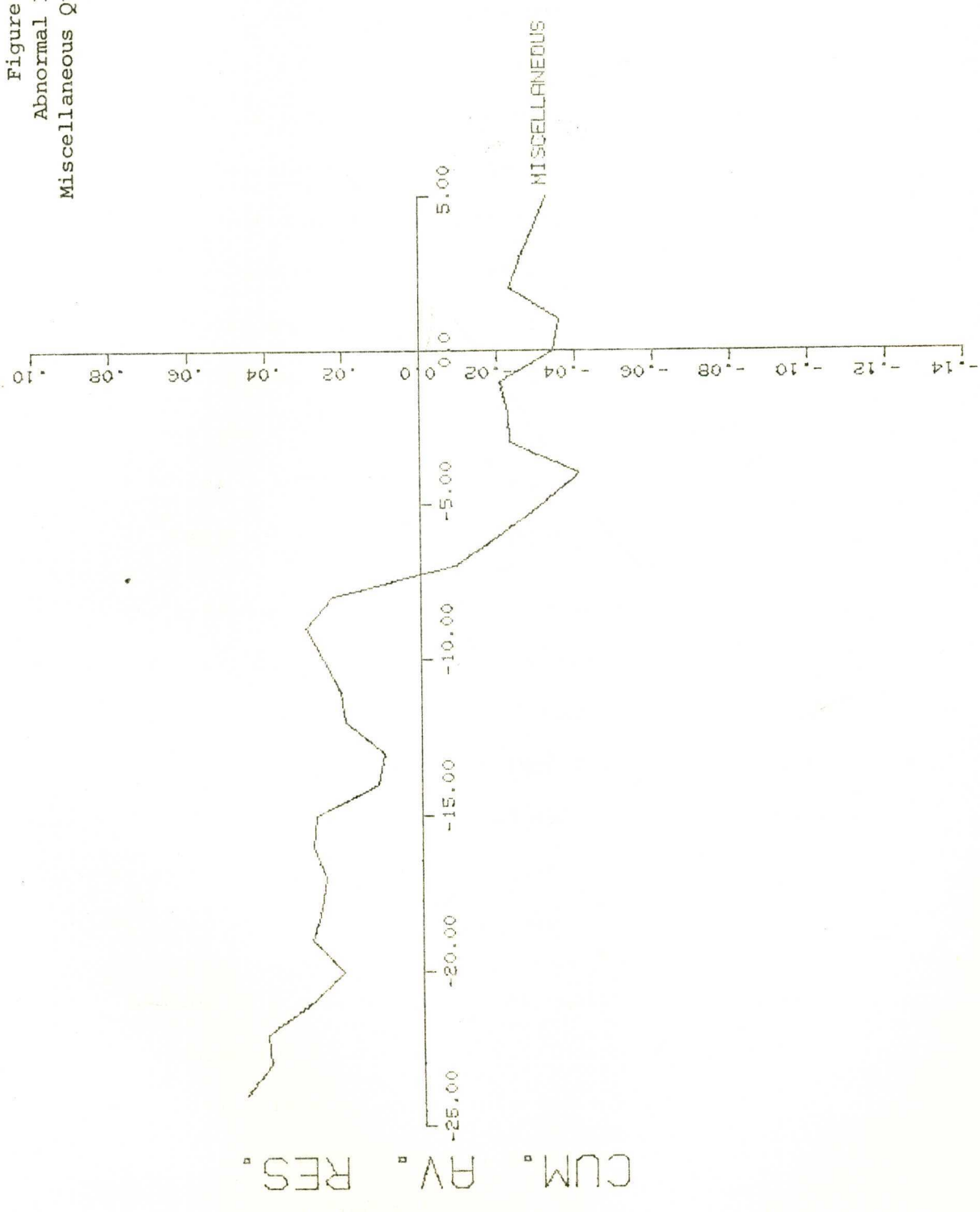


Figure VII
Abnormal Returns
Miscellaneous Qualifications



CHAPTER 8

CONCLUSIONS

The annual audit is a time-consuming and relatively expensive process, and the returns which might be expected to accrue from its effective discharge are far from obvious. The professional accounting bodies, the legislature, the courts and other groups commonly emphasize that audit reports are intended to 'convey information'. This study therefore set out to determine whether or not audit reports (in particular qualified audit reports) convey information to shareholders. Information is deemed to be present in a message if that message results in a reassessment of the equilibrium value of firms' securities. Thus the principal objective of this study was to determine the effect (if any) of qualified audit reports on companies' share price.

The evidence presented herein suggests companies receiving qualified audit reports, on average, experience relatively 'bad' times in the 6-12 months preceding the qualification. However with the exception of relatively serious qualifications (Not True and Fair, Unable to Form an Opinion) the release of a qualified audit report - more precisely, the release of a set of annual accounts containing a qualified audit report - had no effect on share prices.

However this does not mean that qualified audit reports do not convey information to shareholders. Indeed, it was argued here that audit qualifications do convey information, but not in the manner conventionally supposed. This argument relies on the fact that the incidence of a qualified audit report delays the release of both a

company's preliminary final and final annual accounts, and that the more serious the qualification, the greater the delay. This, in turn, suggests the possibility that the stock market may be able to anticipate the incidence of an audit qualification through changes in a company's reporting behaviour.

Such an effect is, in fact, observed. Much of the (negative) price adjustment to a qualified audit report occurs in the interval between the time that the company's preliminary profit report should have - but did not - reach the Stock Exchange, and the release of the 'glossy' final annual accounts containing the qualification.

To summarize, the following general conclusions appear warranted. Audit qualifications are, on average, associated with a decline in the value of corporate securities. Further, the stock market's response to audit qualifications appears to be relatively efficient. This conclusion is based on the fact that: (a) much of the price adjustment to the qualification occurs in the weeks preceding its release (apparently in response to a more timely cue - the delay in the preliminaries); (b) there are in general no opportunities for abnormal returns after the release of the qualification, and (c) the price adjustment appears to be conditional on the subject matter of the qualification. In particular relatively technical or procedural qualifications (such as those for non-compliance with DS4/305) do not appear to have any effect on share prices.

APPENDIX 1

A METHOD OF TESTING THE STATISTICAL SIGNIFICANCE OF AVERAGE RESIDUALS

The parametric Students' 't' test relies on the assumption that the average residuals from the market model are independently and identically distributed - both over time and across securities. Strictly speaking, neither of these conditions is likely to be met. Since the distribution of stock returns differs for each company, the residuals represent drawings from different populations. Similarly, whilst the independence over time condition is likely to be met, it is unlikely that the average residuals are independent across securities. At any point in time residuals for different firms generally exhibit cross-sectional correlation due to, amongst other things, general market effects and common industry influences. This is particularly so of companies which experience the event under study in the same (chronological) week.[1] The correlation is generally positive and as a result the variance of the sample average disturbance is likely to be underestimated and the t-statistic overstated. These problems were overcome by adopting a variant of the procedures employed in Patell (1976) - which in turn were a modification of the 'portfolio' methods employed in Jaffe [1974 (a), 1974 (b)] and Mandelker (1974).

The time-series of average residuals for each firm (i) was divided into an estimation period t (comprising the intervals [-59, -25] and [6, 10]) and a forecast period τ (comprising the interval [-24, 5]).

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1. Tables 1 and 2 in Appendix 2 provide evidence on the presence of 'bunching' in the samples studied here. As can be seen, the problem is confined largely to the 'Depreciation on Buildings' sub-sample.

The standard deviation of each company's average residuals during the forecast period is estimated by:

$$\hat{S}(\varepsilon_{i\tau}) = C_{i\tau}\left[\frac{\Sigma_t \tilde{\varepsilon}_{it}^2}{T_i - 2}\right]^{\frac{1}{2}}$$

where T_i is the number of observations in each firm's estimation period (which may vary due to data availability), and $C_{i\tau}$ is a factor to reflect the increase in variance due to prediction outside the estimation intervals:

$$C_{i\tau} = \left[1 + \frac{1}{T_i} + \frac{(\tilde{r}_{m\tau} - \bar{r}_m)^2}{\sum_{t=1}^{T}(\tilde{r}_{mt} - \bar{r}_m)^2}\right]^{\frac{1}{2}}$$

where T_i is the number of observations in the estimation period and $\bar{r}_m$ is defined:

$$\bar{r}_m = \frac{1}{T_i}\sum_{t=1}^{T} \tilde{r}_{mt} ,$$

the mean market return in the estimation period.

For each week of the forecast period the standardized prediction error:

$$\varepsilon^*_{i\tau} = \frac{\tilde{\varepsilon}_{i\tau}}{\hat{S}(\varepsilon_{i\tau})}$$

was computed. This ratio is distributed as a Student's t-statistic with $T_i - 2$ degrees of freedom. Since the number of observations, T_i in each firm's estimation period may vary due to differences in data availability, each t-statistic has an expected value of zero and a variance equal to $(T_i - 2)/(T_i - 4)$.

The $\overset{*}{\varepsilon}_{i\tau}$ are assumed to be independent random variables of zero mean and (perhaps) unequal variance. In accordance with Lindeberg's Central Limit Theorem[2] a normalized sum can be formed:

$$Z^{*}_{\varepsilon_{i\tau}} = \frac{\sum_{i=1}^{N} \overset{*}{\varepsilon}_{i\tau}}{\left[\sum_{i=1}^{N} \frac{T_i - 2}{T_i - 4}\right]^{\frac{1}{2}}}$$

If the Lindeberg condition is satisfied the distribution of $Z^{*}_{\varepsilon_{i\tau}}$ tends to the unit Normal for large N, and the statistic allows a test of the null hypothesis:

$$H_o: \quad E(Z^{*}_{\varepsilon_{i\tau}}) = 0$$

The Lindeberg condition requires that each observation's contribution to the summed theoretical variances in the denominator of $Z^{*}_{\varepsilon_{i\tau}}$ be small in comparison to the total summation. The variance of $\overset{*}{\varepsilon}_{i\tau}$ is a function of T_i alone and the differences in T_i across firms therefore determines the extent to which the Lindeberg condition is satisfied. For the sample as whole T_i was allowed to vary between 25 and 40.[3] The theoretical variances of the $\overset{*}{\varepsilon}_{i\tau}$ thus lie between a minimum of 1.0556 and a maximum of 1.0952 - a difference of 3.76 per cent of the minimum value. Even in subsamples of relatively small N the condition is thus unlikely to be seriously violated.

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2. Refer Feller (1966, p.256).

3. That is, the procedure was applied only to companies which had a minimum of 25 observations over the estimation period.

The procedure was also applied with T_i allowed to vary between 10 and 40. The results were virtually identical to those reported here; which suggests that the Lindeberg condition is, in fact, well met.

APPENDIX 2

Table 1
Information Content Samples
Weekly Incidence of Audit Qualifications
By Type

Number of Qualifications Occurring in Any Week	*Number of Weeks*	*Number of Qualifications*
	Subject to	
1	125	125
2	22	44
3	5	15
4	4	16
5	1	5
6	1	6
	Unable to Form an Opinion	
1	10	10
	Not True and Fair	
1	6	6

Table 2
Information Content Samples
Weekly Incidence of 'Subject to' Qualifications
By Subject Matter

Number of Qualifications Occurring in Any Week	*Number of Weeks*	*Number of Qualifications*
	Multiple	
1	29	29
2	6	12
	Valuation of Assets	
1	18	18
2	3	6
	Depreciation on Buildings	
1	22	22
2	5	10
3	3	9
4	4	16
5	1	5
6	1	6
	Other Provisions	
1	15	15
2	3	6
3	2	6
	Accounting Principles	
1	20	20
	Miscellaneous	
1	21	21
2	5	10

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