FINANCIAL REPORTING FOR SEGMENTS OF BUSINESS ENTERPRISES

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In the accounting literature a number of problems have been recognised as arising when accountants derive results for 'divisions' or 'segments' of enterprises. Over recent years there have been a number of developments, especially in overseas countries, whereby the disclosure of segmented financial data in firms' published reports is recommended, and in some cases made obligatory. Because no generally accepted solutions to the difficulties of divisional reporting within enterprises are evident in the literature, the external publication of financial data of this type seems likely to create significant problems for the profession. The purpose of this paper is to review the debate preceding the proposals of the United States' Financial Accounting Standards Board which require firms to publish segmented financial data. It is found that the literature includes very little material specifically addressed to the central question of whether the net effect of such additional disclosures, and the accompanying presently unresolved problems, constitutes an increase, or a decrease, in the utility of financial statements to readers.

Prior to a study of the practical problems, an outline of the historical background to the current thrust for mandatory disclosures of segment results is provided. Developments in a number of countries are reviewed and evidence is provided of increasing voluntary segmented disclosures over recent years. An examination of the difficulties, suggested solutions, and proposed rules in the area of transfer pricing shows that a variety of methods are currently used and advocated. It is found that no uniquely defensible approach to pricing exchanges between divisions has evolved in practice or been advocated in the literature.

An analysis of approaches to dividing costs, revenues, assets and claims upon assets again shows that a variety of bases are used. Writers generally agree that allocations are a significant problem and that essentially subjective decisions cannot be avoided if allocations are to be made. However, whether they should be made, is a question on which there is considerable disagreement. The United States' Financial Accounting Standards Board's Exposure Draft, 'Financial Reporting for Segments of a Business Enterprise' (1975), illustrates the difficulty of prescribing rules which restrict subjectivity in this area of accounting. This proposed accounting
standard endorses the use of subjective interpretation with allocated figures required under its rules. Consequently, the opportunity for producers of financial statements to manipulate the results reported to 'outside' parties is not excluded.

A survey of the literature discloses that there is no unanimity with regard to approaches to defining segments. It is found that the use of a variety of alternative bases is accepted by practitioners; although legal demarcations seldom are considered appropriate. The most commonly suggested 'solution' to the problem of definition is that managers should choose the criteria for reportable segments because they are familiar with the operations of the organisation and often use divisional data for making decisions. Upon analysis, most of the suggested definitions rely to some degree upon the subjective interpretations of the enterprise's administrators. Few writers give explicit recognition to the idea that any form of division into sub-entities would do violence to the often quite subtle interrelationships between parts of a single organisation.

When the question of auditing segmented data is examined it is found that professional opinion is divided. Reasons cited for this division include ambivalent views as to the precise role of the auditor and as to the correct interpretation of the words contained in the auditor's report. The issue of auditors reporting on segmented financial reports remains an open question and is one that indicates a need to refer to basic accounting principles.

Reference is made to some of the more recent theoretical literature to establish the extent of support for segmented reporting at the theoretical level. The purpose of this area of the study is to ascertain and examine broad arguments concerning the propriety and benefits of this style of reporting. If a theory-based rationale can be established, a further objective is to see whether it assists in solving the practical problems of financial reporting for segments. Several works embodying 'generally accepted accounting principles' are examined. 'Inventory of Generally Accepted Accounting Principles' (Grady, 1965), 'A Statement of Basic Accounting Theory' (American Accounting Association, 1966), and 'Basic Concepts of Accounting Principles Underlying Financial Statements of Business Enterprises' (Accounting Principles Board, A.I.C.P.A., 1971) are found to be superficial and lack clear applicability to the specific area of
of segmented reporting. Their often loose and ambiguous expressions of 'accounting principles' neither support nor refute the concept of reporting for sub-enterprise units.

Two other theoretical works are referred to in this section of the paper: 'Accounting, Evaluation and Economic Behavior' (Chambers, 1966) and 'Theory of the Measurement of Enterprise Income' (Sterling, 1970). In the writings of both these authors attention is directed to a principle of 'information verity'. This principle places emphasis upon the existence of real-world evidence. These works can be considered as embodying an accounting theory that is an alternative to 'generally accepted accounting principles'. This alternative accounting theory runs counter to the mainstream of present accounting thought and general practice. It also directly conflicts with the particular practice of segmented reporting.

Financial reporting for segments of business enterprises is not justified by reference to either of the approaches to a general theory of accounting reviewed in this paper. Under 'generally accepted accounting principles' there is no clear support; under the not widely accepted alternative, it is untenable because of the inherent lack of concrete evidence for notionally derived segment figures.

It is generally conceded that the diversity of practice and opinion in a number of areas creates significant problems with accounting for segments. No widely accepted solutions have evolved from practice nor are they evident in the literature. Similarly, the variety of practical techniques, and consequently reportable results, has not been effectively limited by accounting rules promulgated to date. The more traditional theory is of no assistance in resolving issues in this area, and an alternative theory directly rejects this style of reporting. In view of these facts, the increasing publication of segmented data, and the increasing rules and recommendations for segmented financial reporting by business enterprises, it is concluded that the debate will continue and intensify.
This thesis contains no material which has been submitted for examination in any other course or accepted for the award of any other degree or diploma in any university or institution of higher learning and, to the best of my knowledge and belief, contains no material previously published or written by any other person except where due reference is made in the text.

[Signature]
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CHAPTER I
INTRODUCTION

1.1 The Problems Considered

Definition of reportable 'segments' or 'divisions' of firms and interrelationships between the defined segments are matters that have received attention in the accounting literature over a long period. Until recently authors generally considered that choices exercised in the preparation of accounting reports for segments were primarily concerns of managers and 'management accountants'. Matters seen to need resolution by these accountants and managers were definition of segments, allocation of joint financial elements and prices for exchanges of goods and services.

Many writers in the 'management accounting' literature considered that study of the available techniques and selection of appropriate methods were matters of a technical nature and of limited interest. These issues were regarded as relatively unimportant concerns to the profession. The areas where choice could be exercised frequently were treated as being independent of each other. Some writers explicitly recognized that similarities and relationships existed between these areas; very few, however, attempted to relate these technical difficulties to a broad theoretical framework of accounting.

The need for more comprehensive enquiry into financial reporting for segments of enterprises has increased over recent years. Evidence, presented in chapter two of this study, indicates that more companies are providing data about segments of their operations in external financial reports. The increasing popularity of this form of reporting has been suggested to be the result of three factors. First, administrators of organizations, especially large 'conglomerate' corporate structures, have stated that this type of reporting assists in retaining the goodwill of outsiders, particularly those connected with providing capital funds. Second, greater demands have been made by regulatory authorities for this type of data. Third, accounting and other professional bodies have increasingly advocated the expansion of external financial reporting in this manner. It has been recognised in the literature that present
Segmented reporting practices provide an additional avenue for 'window-dressing' in corporate accounts. Whilst it has been commonly asserted that there are compensating benefits for those individuals attempting to assess the risks and returns of participation with 'diversified conglomerates', these suggested benefits of segmented reporting do not appear to have been closely examined in the literature.

The presently existing problems of external segmented reporting can be studied from the differing points of view of the parties involved. The difficulty of choosing between alternative techniques in a number of areas, continues to confront accountants preparing sub-enterprise reports. In fact, the range of alternatives for preparing such reports discussed in the literature, and used in practice, is expanding. Conventional practice, professional rules, and enacted legislation for the most part do little to ensure consistency and standardisation in this area of 'financial accounting'. In comparison with reporting to management, external segmented reporting requires accountants to communicate with more diverse and distant reading audiences. The scope for liaison and counselling with this wider group is very limited. The basic problem facing practitioners is that they have no externally provided basis for choosing between alternatives. Extending external reporting to encompass results for segments introduces the need for additional choices to be made by accountants preparing accounts to be published. These choices may impact upon the decisions of external recipients of corporate accounts. A consequence of this extended reporting would appear to be that the risk of law suits against members of the accounting profession would be increased.

The lack of a standardised or accepted mode of reporting segmented financial figures also may be a problem confronting statement readers. They have very little material available to assist them to understand and interpret segmented data. The wide range of results that are equally acceptable to members of the accounting profession may cause them concern and lead them to distrust the content of accounting reports. The extent to which they can place reliance on segmented financial figures for making decisions is a crucial problem for statement readers.

The number of other parties may view external segmented reporting as a problem area because they consider that it creates a need for rules. Professional accounting bodies may introduce 'standards' or
recommendations to assist practitioners by limiting the range of allowable or recommended alternatives. Such pronouncements may also shield individual members for criticisms about the credibility of accounting figures which may be prepared using often very dissimilar ideas and methods. Regulatory authorities may also wish to restrict the range of permissible methods of segmented reporting to reduce the scope for individuals controlling the affairs of corporations to improperly manipulate published financial results.

One recent example of 'rule-making', the release of a draft standard by the United States' Financial Accounting Standards Board [37]*, is of particular interest for three reasons. First, it attempts to narrow the range of allowable practices at least to some degree, in areas such as segment definition, cost allocation, and transfer pricing. Second, the Financial Accounting Standards Board (FASB) draft and associated studies [25] [26] review some of the recent literature and developments on segmented reporting. Third, the draft may be a forerunner to a mandatory requirement for accountants in the United States to present segmented financial data in annual accounts. This draft standard is itself an important step in this field. It is because of these three reasons that the United States' proposals warrant consideration in this study. However, whilst the FASB literature does provide a convenient focus, it constitutes only a small, although significant, part of the total relevant literature.

Auditors are another group who may view the practice of external reporting for segments as a source of problems. Rules developed by professional and legislative bodies are of direct relevance to auditors. To fulfill their responsibilities to shareholders, auditors must report whether companies' results have been prepared in conformity with such requirements. They also have a more general obligation to comment on the 'fairness' and in some cases the 'truth', of financial statements which may contain segmented data. Thus auditors may be seeking to discriminate independently between alternative practical techniques. Requiring business enterprises to publish reports including financial data for segments, is likely to cause significant problems to this group of practitioners.

* Numbers in square brackets are bibliographic references.
The difficulty confronting rule-makers, practitioners and auditors is to establish criteria for preferring one or more of the numerous methods that can be used to produce segmented data. An aspect of this difficulty is the number of techniques that would be allowable. On the one hand, it has been suggested that a small number would simplify the decisions to be made by practitioners and reduce the uncertainty of readers. On the other hand, it is argued that with a large number of allowable procedures it would be less likely that accountants would be forced to produce misleading reports because of the different practical circumstances in which segments operate.

The objectives of this study are:

1. To provide a summary of the background history and debate preceding the recent FASB proposal to introduce requirements for the publication of segmented financial data.

2. To review literature relating to the recognized problem areas of segmented reporting and to determine the extent to which writers have sought to identify discriminatory bases which may be generally acceptable to the profession.

3. To examine more general accounting theories to determine whether this part of the accounting literature provides criteria for choosing between alternative methods. If such criteria can be established and the variety of allowable results can be reduced by applying constraints to segment definitions, allocations of joint financial elements and pricing transfers, then a fundamental obstacle for all parties concerned with accounting for segments of enterprises will be overcome.

1.2 Outline of this Study

This study has four major divisions. The first division is chapter two. In this chapter the events in the United States of America which preceded the release of the FASB Exposure Draft are described. A review of changing ideas towards segment reporting in the literature is provided. Legal and professional rules operating in a number of countries are summarized as a background to a study of the practical problems of external reporting for segments of firms.
Chapters three to six comprise the second major division of this paper. In this section attention is given to the widely recognized difficulties of reporting for segments. These are transfer prices (chapter three), cost allocations (chapter four), definitions of segments and interdependent relationships between segments (chapter five). In each of these chapters an indication is given of the range of alternative practical methods suggested by writers in the literature. The position of the FASB as an arbitrator and legislator for the American practitioner facing difficulties in accounting for segments is considered. Chapter six reviews the implications that external segmented reporting has for auditors.

In the third major section of the paper an attempt is made to relate the theoretical frames of reference of parties to the debate to the ideas they express regarding the practical problems of external segmented reporting. In addition to indicating broad conceptual differences between writers, an analysis is made in chapter seven of any links they establish between broad conceptual propositions and particular approaches to deriving results for segments. The extent of ideological support offered by two broad general theories of accounting for specific arguments in the segmented reporting debate is assessed in this division of the paper.

Chapter eight integrates the practical difficulties of segmented reporting with an overview of the theoretical arguments. For this study it is concluded that accountants preparing reports for segments of business enterprises are faced with a range or procedural alternatives. The range of these alternatives is not being effectively reduced through debate in the literature or rule-making by authorities. Two general theories of accounting offer little or no support for this style of accounting and do not provide basic criteria to guide practitioners in the selection of alternative segment definitions, allocations and transfer figures. External segmented reporting, which has expanded on a voluntary basis over recent years, creates problems for accountants and readers of financial statements. The basic difficulty, that an extensive range of results can be legitimately reported, has not been overcome. The introduction of mandatory requirements for external segmented reporting, without resolution of the problems currently attending this style of accounting, would create significant difficulties for all parties involved in corporate reporting.
CHAPTER 2

BACKGROUND

2.1 The United States of America

The objective of this section of the paper is to provide an outline of the major forces that led to the release in September 1965 of the FASB Exposure Draft requiring all businesses to report financial results by segments. It is not an intention to provide a detailed chronology of these events, but to indicate some of the origins of the demands for this form of additional disclosure and the subsequent events which gave it impetus. The latest available material at this date is the submissions made at the public hearings conducted by the FASB prior to the release of the Exposure Draft. An analysis of these responses is provided as the conclusion to this background.

2.1.1. External Reporting - Professional and Regulatory Developments

Originating with a Senate Sub-committee on Monopoly and Anti trust in September 1964 a dialogue, concerning the inclusion of segment data in the reporting requirements occurred between leaders of government agencies, professional associations and academics. Securities and Exchange Commission chairman Manual Cohen was an influential advocate for such segmented disclosures. In 1966 a subcommittee of the American Institute of Certified Public Accountants recommended further detailed study by the American profession and in September 1967 the AICPA Accounting Principles Board issued Statement Number Two 'Disclosure of Supplemental Financial Information by Diversified Companies'[5]. Voluntary segmented disclosures were advocated by this statement and an analysis of such voluntary disclosures is included later in this chapter.

The National Association of Accountants was another accounting body which displayed a keen interest in the proposals. It published four

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1. To an extent, this has been done by Skousen [79]. This aspect has also been dealt with in the Discussion Memorandum [25] in Appendix A.
significant works over a five-year period discussing and recommending segmental disclosures for external reports:

'External Reporting for Segments of a Business'
Backer and McFarland, January 1968 [9].

'A Framework for Financial Reporting by Diversified Companies'
Rappaport and Lerner, September 1969 [66].

'Segment Reporting for Managers and Investors'
Rappaport and Lerner, May 1972 [67].

'Statement No. 3: Financial Reporting for Diversified Companies'
NAA Committee on Management Practices, June 1972 [59].

The Research Foundation of the Financial Executives Institute published: - 'Financial Reporting by Diversified Companies' by Mautz in May 1968 [52].

There was an increasing number of recommendations for voluntary segmented disclosures by professional associations of accountants, financial analysts and financial executives that followed and accompanied these surveys and research studies. Since August 1969 these have been reflected in additional regulatory reporting requirements.


Other official bodies adopting requirements for the segmentation of accounting data were:-


Cost of Living Council (Phase IV of Economic Stabilization Program – price increased by product lines)


Various other U.S. Congressional committees and subcommittees including the Senate Select Committee on Small Business, the Senate Judiciary Subcommittee on Antitrust and Monopoly and the House Antitrust Subcommittee of the Committee on the Judiciary. In December 1973 legislation was introduced in the Senate which required companies in energy industries to report segment information ([25], pp.61-65.)

To summarise, the period from 1964 to 1975 was a time when the
pressure that followed the studies and recommendations of professional bodies led to greater regulatory reporting requirements for detailed segment data. The initial impetus in this period arose in connection with antitrust considerations although more recently the main advocates appear to be user-oriented bodies such as the Financial Analysts Federation. The principal argument advanced is that the increasing size and diversity of operations of firms makes ‘aggregated’ information insufficiently detailed for investment decision-making. The issue of a general accounting pronouncement on this issue is one of the 'carry-over' functions of the Financial Accounting Standards Board after it superseded the American Institute of Certified Public Accountants' Accounting Principles Board. In this connection it has issued a Discussion Memorandum [25], May 1974, held a public hearing [26], August 1974, and issued an Exposure Draft [27], September 1975.

2.1.2. Factors Favouring Segmented Reporting in the U.S.A.

The above brief analysis does not explain why the movement for the publication of financial reports gained momentum in the United States in this period. A comprehensive historical analysis of possible causal factors is beyond the scope of this paper, however a number of possible contributory factors can be suggested. The first group of these related factors may be termed as 'growth'. It is claimed that at least for the period from 1945 to 1965 the American economy had experienced conditions more favourable to the growth and development of privately-owned business enterprises than elsewhere in the world. In the second half of this twenty-year period many modern and large corporations achieved growth other than by increasing their traditional markets and product lines. One means of achieving this was to diversify the existing enterprises activities. Such diversification has been classified as 'vertical', that is either backwards into fields dealing in products and services currently purchased for the corporation's needs, or 'forwards' into the distribution channels for its goods and services. Other forms of diversification have been described as 'horizontal', that is into fields related to existing activities, for example from film production into camera production or 'lateral' diversification, that is into new and unrelated fields perhaps in an attempt to lower the risks inherent in a
dependence on a narrow specialization. A means of achieving this diversification expediently was to take over another, usually smaller, enterprise operating independently. The holding-subsidiary form of corporate structure was often the result of such a growth. In situations where growth was internally generated the organization of the enterprise was sometimes decentralized to reflect the holding-subsidiary corporate model.

A second of group of factors may be labelled as 'technical expertise'. The practitioners of the new 'management sciences', which were strongly developed in the U.S.A., found the idea of creating smaller organizational sub-enterprises attractive. They claimed that such structures provided advantages for both the motivation and evaluation of management staff if the large conglomerate companies were to be perceived as federations of small independent profit centres rather than as impersonal monoliths. In the United States, accountants had developed a high level of expertise in cost accounting. The aim of scientific measurement evident in the social/management sciences was reflected in attempts to achieve greater precision in attributing costs to particular lines and units of production. Such accuracy was seen not only as advantageous in the determination of financial accounts and profits, but critical if the data was to serve as important input for management control systems. Accuracy in costing was also important for governmental and other cost-plus contracting which was a feature of some United States industries. The consideration and development of profit centre reports and controls and the techniques of evaluation that could be applied occupied a considerable portion of the literature leading up to 1964. The state of the accounting art at this time is shown by Solomons' book 'Divisional Performance: Measurement and Control' published by the Research Foundation arm of the Financial Executives Institute in 1965 [81] and by the references contained in its extensive bibliography. It is after the use of such techniques and approaches become more widespread for internal managerial purposes, that the arguments for extending these techniques to supply data for external financial reporting began to appear in the literature.

A third group of factors may be labelled as 'socio-political' deriving from the historical context of the United States. The American business
environment has traditionally been characterized as providing a climate where the rapid growth of personal and corporate control over large quantities of resources was possible. These were regarded as the benefits to be won by the most skilled and talented individuals in a democracy. Paradoxically, on the other hand there seems to exist a sense of caution with regard to large and diversified private enterprises which could result from such success. This quality is evidenced by stringent antitrust and monopoly control legislation. It may be argued then that the ideas of segmentation, divisionalization and decentralization found favour as they held out the promise of maintaining the benefits of size and diversity of operations whilst maintaining a sense of individuality and the opportunity to develop broad entrepreneurial skills.

The above three groups of possible influences is not claimed to be exhaustive. Nor is any attempt made here to indicate the relative importance of any of the factors suggested. It is stressed that the factors may best be described as considerations that may, in part, explain the events which culminated in the FASB Exposure Draft advocating universal financial reporting for segments of business enterprises.

2.1.3 Analysis of Submissions to FASB Public Hearing

A total of one hundred and forty one written responses were submitted to the FASB to become part of the record of the public hearing on the issue of financial reporting for segments of business enterprises. Submissions ranged from expositions of over one hundred pages through to brief half-page comments. Respondents included academics, trade associations, government bodies, professional societies, corporations and individual practitioners. Some papers were designed to augment an oral presentation, others were intended to present a point of view without further amplification. Some papers encompassed all eleven issues raised in the Discussion Memorandum whilst others made comments pertinent to only one or two areas. Discussion in some submissions extended past the questions asked, to include criticism of the content and structure of the Discussion Memorandum and the arrangement of the technical agenda of the FASB. The summarisation of such a large and diverse input is a difficult task.
The method of analysis adopted in this paper is the ranking of graded responses to the first general question posed by the Discussion Memorandum. A five-point scale of attitudes to a proposition favouring segmented reporting was employed in this connection. A three-point scale was used for opinions concerning the audit of segmented reports. Other common attitudes and responses in the submissions are described in non-quantitative terms. The details of respondents and their assessed attitudes is contained in Appendix A. Discussion of the attitudes to the audit of segmented reports is contained in Chapter 6.3. The summary of responses to Issue One of the Discussion Memorandum and an indication of some of the commonly expressed ideas follows.

Issue One of the Discussion Memorandum was the question 'Should information about segments of a business enterprise be included in financial statements?' In paragraph 21 it is stated in the Memorandum 'Clearly this issue is a difficult one to address in the abstract ...'. Although since the question is one that calls for a statement of opinion only, there is no reason why it could not be answered; nonetheless four more specific questions are posed by the Discussion Memorandum.

Question 1.1 Is segment information useful for investment and credit decisions?
Question 1.2 If segment information is useful, for what purpose would such information be used in making investment and credit decisions?
Question 1.3 What are the implications for business enterprises if segment reporting were required?
Question 1.4 To what extent is segment information objectively verifiable?

Thus it was possible for respondents to answer the specific questions in a way that their attitude to the general issue appeared to be ambivalent. The assessment of the aggregated net effect of the four responses given in most instances was a subjective evaluation on the part of this writer, except in those cases where a directly affirmative or negative answer was provided. This subjectivity was again necessary when attitudes were graded as either strong agreement or agreement, or strong disagreement or disagreement.
Some examples of the classification applied to certain responses may convey greater understanding of the manner in which they have been graded. Respondent number one, David Norr, First Manhattan Co., has been classified as strongly agreeing with the proposition that 'information about segments of a business enterprise should be included in financial statements'. His submission included the following statements:

... line of business disclosures represent the most significant advance in analysis in the post-war period.
... all allocations (should) be made. ... the basis be disclosed, should be followed consistently and should be reasonable.
... I believe we have no choice; we must go to an SIC code with an increased number of segments.

Blue Bell Inc. in submission number fourteen very plainly give the impression that they are in strong disagreement with the proposition to include segmented data in financial statements:

... The recommendations that emanate from the FASB hearing should be such that the many complexities of this issue be sufficiently presented in such a manner that both the FTC and the SEC will understand the dangers inherent in such reporting.
... such information (about segments) should not be included in financial statements.
(Regarding Question 1.1) ... The answer is no, because ...
(Regarding Question 1.2) ... As answered in 1.1 above, it is not useful because ...
(Regarding Question 1.3, this respondent listed the following points against segmented reporting:
  a. detriment to competitive position,
  b. increased costs and wasted resources,
  c. restrictions to competition, and
  d. comparative disadvantage to U.S. companies in world markets.
(Regarding Question 1.4) ... This would have the obvious impact again of increased costs, decreased return to the shareholders and wasted manpower of the nation.

Respondent seventy-four, Owens-Illinois, have been classified as generally agreeing with the proposition, although they express some reservations:

... Generally we believe that some information on segments ... can be helpful in understanding the makeup (of a company) ...
... There should not be a presumption that every company must report on a segment basis ...
... On the other hand, segment reporting assists the reader in understanding the broad industries in which a company competes, a segment's size in relation to the entire company, and the relative earning contribution of the various segments.
The Colgate-Palmolive Company in their submission, (number nine), tended to present the same argument although their reservations were more strongly worded. It was considered by this writer that, on balance, this respondent's view was favourable towards (some) segmented data being included in financial statements and they have been graded as agreeing with the basic proposition.

... Net sales segmented by end use of company products is, in management's opinion, meaningful to investors and analysts.
... Segmentation by end use and/or geographical areas should be left to management's decision...
... Insofar as segmentation of income is concerned certain factors must be considered that are difficult to quantify in anything but company totals, such as...
... Segmentation of balance sheets and financial position changes for a centralized company will be more the result of allocations than directly assignable items which will make any such reports of extremely limited value.

Response ten, Texas Gas Transmission, presented the same argument but the general impression gained was one of 'disagreement' with the proposal that information about segments of a business enterprise should be included in financial statements.

... It would be a great mistake for the FASB to attempt to make specific rules relative to form and content of financial information about segments of a business enterprise to be associated or included in financial statements.
... There is no doubt that segment information is useful for investment and credit decision-making provided...
... The basis of reporting segments of an enterprise should be based on the judgment of business management.
... The form of such information should not be restricted, but left to the discretion of management.

In some cases it was not possible to form an opinion on the responses offered to the primary question of the Discusssion Memorandum. Robert T. Cole's submission number thirteen was placed in the 'not ascertainable' category because of the absence of pertinent comment. The full text of his response was as follows:

In connection with your consideration of financial reporting for segments of business enterprises, I would like to make only one comment, and that is that there is no discussion of the manner in which the income of a business enterprise is to be determined. I know that the Treasury Department has had a lot of trouble in determining how to allocate deductions and
income between countries and between certain types of activities. I would assume that the accounting profession would want to come to grips with these problems.

Respondent twenty-nine, Eli Lilly and Company, also was graded as 'not ascertainable' because their comments appeared to be ambivalent in the context of the question posed.

... We believe that any standards relating to segmental reporting must be sufficiently flexible that a large number of enterprises are not required to fractionalize themselves unrealistically in order to comply.

... We consider it unfortunate also that the wording of the basic issue implies not whether segment information should be disclosed but whether it should be disclosed in the financial statements.

... One caveat appears in order. The usefulness of segment information to management normally will be greater than for investment and credit decisions, because management is better able to understand the inherent limitations of such information. It may be impossible to convey adequately understanding of these limitations to persons not directly engaged in the business.

The nature of the FASB Public Record is such that analysis must be somewhat restricted. Whether the invitation by the Standards Board to the public to submit responses is warranted is questioned in the next section of this chapter. However it may well be that in seeking to avoid the charge levelled at its predecessor, the FASB may not be making proper use of the material it generates. (The Accounting Principles Board was claimed to be dominated by large accounting firms and not to have obtained a sufficiently wide range of input for its rule-making.) In addition to regarding these submissions as one area of the relevant literature from which specific arguments may be gleaned, they have also been considered here to be a form of contemporaneous 'opinion poll'. This is not to infer that the most common view is necessarily the one that should prevail. Despite the rather obvious shortcomings of this 'straw vote', that is, its biased sample and the subjectivity of evaluating the diverse pattern of responses, it does possess some interest as a limited piece of evidence. Another important aspect is that it can be considered as a guide to arguments and attitudes that need to be successfully countered if the Financial Accounting Standards Board's proposals are to gain the widest possible support.
Because the preparation and lodging of comments with the FASB in response to the Discussion Memorandum was voluntary, it is not surprising that opinions tended to be polarized. As a research finding this analysis must be carefully interpreted; in essence it involves a personal evaluation of voluntary responses to a loosely structured open-ended questionnaire. It cannot be said to be representative of any wider body of opinion. The Discussion Memorandum was not framed in such a way as to make responses amenable to statistical condensation. It is suggested that if the FASB wished to claim statistical support for its proposals, then with the technical expertise available to it, better research strategies and instruments could have been employed. Given these limitations the graded general attitudes of the one hundred and forty one respondents have been summarized as follows:

**ISSUE ONE - (In Positive Statement Form)**

Information about Segments of a Business Enterprise should be included in Financial Statements.

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<tr>
<td><strong>Total</strong></td>
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</table>

It can be seen that there were over three times as many favourable responses as unfavourable responses. However, approximately two thirds of the positive responses were qualified or limited, whereas approximately two thirds of the negative responses were unequivocal and could be taken as representing strong opposition. If the responses were to be scored as five points for strong agreement through to one point for strong disagreement, the mean response score would be 3.7 points, indicating general, but limited, agreement by respondents. An interesting comparison is the Canadian response to the November 1970 Exposure Draft 'Financial Reporting of Diversified Operations' Mulcahy ([57], pp. 359, 360.) reports '...approximately 70% of the response indicated general agreement ...' (however, the Canadian Draft gave a choice between presentation of segmented information
as part of the financial statements or as supplementary information).
A typical response to the Discussion Memorandum was one that indicated that some steps should be taken to ensure the provision of segmented data in financial statements but that such requirements should not be unduly restrictive. A feature of a large number of submissions was that it was emphasized that management should have the responsibility for choosing the appropriate basis for segmentation. This flexibility sought for management included both the nature of the data to be provided and the method of its presentation. This latitude allowed to managers is a feature of the subsequent Exposure Draft.

Generally the responses of financial analysts were strongly favourable, accounting bodies and firms were mostly sympathetic to the general proposal, and the responses of academics, industrial associations, and corporations were more evenly distributed. With regard to the segmented data to be published, strongest support was given to sales and contribution data, profits after 'reasonable' allocations received less support, and very few respondents were inclined to the view that the provision of a segmented Balance Sheet and Funds Statement was both feasible and desirable. Again, with the possible exception of 'identified assets' the subsequent FASB Exposure Draft requirements would accord with the majority view. Most respondents favoured the idea that segmented data should be included as a part of the financial statements however commonly they considered that such disclosures should be in the forms of notes to the accounts or supplementary statements rather than as part of a basic recasting of the primary financial statements.

Some respondents, including the Financial Executives Institute ([26], Pt.1, submission 97.), categorised as opposing Issue One statement conceded that some disclosure of details concerning the operations of segments would be useful but argued that incorporation into the financial statements was an inappropriate means of achieving this benefit. The major grounds of opposition to the statement were as follows:
a) that no evidence had shown that a lack of such data was disadvantageous to investors and creditors;
b) that, because of transfer prices cost allocations and other difficulties, users would draw erroneous conclusions;
c) that any additional benefits would not be warranted when the additional costs were considered;
d) that competitive disadvantages would accrue to an enterprise;
e) that mandatory disaggregation of integrated activities of unitary concerns would be unrealistic and potentially misleading; and,
f) that no standards on specific issues including segmented reporting could be promulgated until there was some consensus on the theoretical framework of accounting.

These arguments were often included in the submissions of respondents who agreed with the idea of segmented financial reporting. However, they were seen as difficulties to be faced in implementation, rather than fundamental obstacles preventing the adoption of requirements to publish disaggregated data.

In conclusion it may be said that the majority view of respondents to the Discussion Memorandum was one favouring the gradual introduction of broad and flexible guidelines requiring the reporting of segmental data in the financial reports of all enterprises. Most respondents foresaw difficulties in the production of such reports however in the opinion of the majority, managerial freedom in implementation would provide for these difficulties to be overcome. Clearly the majority of those parties who lodged written submissions with the FASB would find little in the Exposure Draft to which they would be violently opposed.

2.1.4. Critique of the FASB Approach

Two criticisms have been directed previously to the approach adopted by the FASB in arriving at the proposed rules for disclosure of the results of enterprise segments. The first of these criticisms was that no statistical techniques were applicable to the input received in response to the Discussion Memorandum. The second was that the proposals of the Board were not directly justified in terms of points made in the submission. Both of these criticisms are indicative of a wider concern: the nexus between responses to the Discussion Memorandum and the proposed requirements of the Exposure Draft is not made clear.
The approach of inviting public comment gives an appearance of 'openness' and of participation by interested individuals and groups. However, the method of evaluation adopted by the Board, for the heterogeneous input received, is not divulged. For example, it would appear unlikely that the submission made by an individual student would receive the same weighting as the submission of a professional association. Comments on the Discussion Memorandum were received from a variety of interest groups, however with the exception of financial analysts, the primary group of users identified by the FASB, that is shareholders and creditors, appeared to have been largely unrepresented. The number and persuasiveness of responses, at least in part, would have been influenced by the ability of various interests to form lobby groups and the access that they have to the resources necessary for the preparation of submissions. It could be argued that those individuals most reliant on the content of published financial reports would have been those least likely to make a direct input to the FASB.

To summarise, the connection between the submissions made to the FASB on the Discussion Memorandum and the content of the subsequent Exposure Draft and any future accounting Standard is not made explicit. The opinions expressed cannot be considered as representative of any wider group, nor to be those of the individuals most directly affected by the rules enunciated. The purpose and usefulness of the exercise is open to question unless the Board is prepared to defend its conclusions against all criticisms.

2.2 Canada

A company which is incorporated under the Canada Corporations Act is required by Section 122.1 to present 'a statement of the proportions in which the accounts of sales on gross revenue is divided among the classes of business ... that in the opinion of its directors, differ substantially from each other'. The term 'substantially different classes of business' is not defined in the Act; although separate reporting is not required for a class that constitutes less than ten per cent of the total gross revenue. The Ontario Business Corporations Act and the Ontario Securities Act contain similar provisions although under the
latter Act companies whose securities are traded in Ontario (regardless of place of incorporation) need only report classes of business contributing fifteen per cent of gross revenues of less than C$25,000,000. The information so provided is covered by the auditor's report.

The Canadian Institute of Chartered Accountants have in this context provided some guidance to their members ([16], section 1700). Their recommendations state that 'the basis of segmentation should generally be the industries in which the enterprise operates'. However, another basis may be chosen if management decides that segmentation on a basis other than industry is more appropriate for the enterprise. Segmentation according to any particular industry classification guide is discouraged in favour of broad industry groupings which management of the enterprise recognize as being 'clearly distinguishable one from the other'. The recommendations also recognize that dispersion among various countries or geographical areas may produce additional variations in profitability, risk, and growth opportunity. In those instances, geographically segmented information may be desirable in addition to information segmented by industry, but not as a substitute for it. Terms such as 'industry' and 'geographical area' are not defined, although it is suggested that operations that are integrated either vertically or horizontally may be treated as one industry.

The Canadian Institute views the statutory reporting requirements as minimal, however it provides no assistance with determining cost allocations, and segment transfer methods. Reporting sales or gross revenue by segment is encouraged as a minimum but segment margin reporting should normally be used when reporting the profitability of segments of an enterprise. Segment margins are calculated by assigning to each segment the sales or gross revenues and costs which are applicable to the particular segments and by excluding common costs. 'The particular circumstances relating to each enterprise will determine which costs are applicable to segments and which are common'. Companies that normally allocate some or all common costs directly to segments may present margins less allocated common costs as an appropriate alternative to segment market reporting. The Institute recommends that the aggregate
of unallocated common costs should be shown separately and deducted from the total of the segment margins (or the segment margins less allocated common costs), to produce a figure which will correspond with reported net income for the period. Segmented balance sheet data and source and application of funds data may be disclosed when it is 'meaningful and readily available'.

2.3 United Kingdom

In the United Kingdom, the Companies Act of 1967 requires disclosure of the following information for most companies, Section 17 (1), or groups of companies lodging consolidated accounts, Section 17 (2):

a) The proportions in which the turnover (sales) for a year is divided among segments,

b) The extent to which each segment 'has contributed to, or restricted, the profit or loss of the company for the year before taxation'.

This latter requirement has been variously interpreted as requiring disclosure of each segment's profit after all expenses other than nonrecurring items and taxes, or as requiring disclosure of each segment's profit before expenses not readily identifiable with specific segments. The Act does not define 'substantially different classes of business' and no guides are given as to the materiality of segment operations calling for separate reporting, although companies with total sales of less than £250,000 p.a. are exempt from this requirement. Section 17 (3) provides that Directors may combine classes of business which, in their opinion, do not differ substantially from each other. Directors are obliged to state the value of goods exported, or state that no goods were exported, from the U.K. during the year, if turnover exceeds £50,000 and the company is not exempted by the Board of Trade on the grounds of detriment to the 'national interest' (Section 20).

Paragraph six of the General Undertaking of the Federation of Stock Exchanges in Great Britain and Ireland imposes a relevant condition upon companies seeking admission to listing on one of the exchanges. The companies must disclose the contributions of 'widely differing operations' to their trading results. The companies must also provide a geographical analysis of trading operations outside the United Kingdom. These requirements generally are interpreted to require information of the kind
required by the Companies Act. The Undertaking does not define 'widely differing operations' nor prescribe materiality guides.

2.4 Sweden

The Swedish Stock Corporation Act of 1944 requires companies to disclose the revenue of their various 'operations'. They are also required to provide data about the income or loss of each of these operations provided that such disclosure is not detrimental to the corporation. The wording of the Act is that such details are to be disclosed when a corporation 'engages in various operations essentially independent of each other'. The Act also provides that certain items shall not be taken into account in the calculation of income or loss for various operations. These include interest, taxes, depreciation, general administrative expenses and extraordinary expenses and losses. (Sections 102, 103.)

2.5 Germany

The German Stock Corporation Law 1965 contains similar provisions to those of Sweden concerning the disclosure of turnover; however, it additionally requires the disclosure of an extensive list of specified expenses dissected on the same basis as that used to divide the revenue to provide statement users with a 'defined profit' figure for each operation.

2.6 Australia

Reporting requirements for Australian companies currently include little that may be construed as constituting segemental disclosure. The uniform Companies Acts require the disclosure of the principal activities of companies (Section 162A(2)b). However there is no need to indicate any related financial data for any of the principal activities disclosed, although Section 162A(2)c and (2)d relate to disclosures covering profit contributions and consideration for acquisition on disposal of subsidiary companies. The following information is required in connection with the directors report that is to be attached to group accounts.
(b) the principal activities of the corporations in the group in the course of the financial year and any significant change in the nature of those activities during that period;

(c) the net amount of the consolidated profit or loss of the group for the financial year after provision for income tax, showing separately the extent to which each corporation in the group contributed to that consolidated profit or loss, and after deducting from that consolidated profit or loss any amounts which should properly be attributed any person other than a corporation in the group;

(d) the names of any subsidiaries acquired or disposed of during the financial year, the consideration for each such acquisition or disposal and the amount in each case of the net tangible assets of the subsidiary acquired or disposed of and, in the case of a subsidiary not being a wholly-owned subsidiary the extent of the holding company's interest therein.

Single companies are not required to publish any figures that are necessarily identifiable with any separable operations. Groups of companies usually publish consolidated accounts although an option exists for accounts to be separately published for each company in a group. The Ninth Schedule provides for some additional disclosures relating to holding - subsidiary relationships however advocates of segmented disclosures consider that these fall far short of disclosures necessary to achieve the goals they seek.

Ninth Schedule, Clause 2. (1) There shall be shown separately in the accounts or group accounts (whether by way of note or otherwise), in addition to any other matters necessary to present a true and fair view of the profit or loss of the company or of the company and its subsidiaries -

(a) the amounts of income received, or due and receivable, as dividends declared on shares in-
   (i) related corporations; and
   (ii) other corporations -
   separate amounts being shown in respect of each subsidiary;

(b) the amounts of income received, or due and receivable, as interest on debentures, deposits, loans or advances from -
   (i) the holding company;
   (ii) subsidiaries; and
   (iii) other related corporations;
The Australian Associated Stock Exchanges listing requirements also require some separate information on subsidiaries:-

Sec. 3 Continuing Requirements

Part C - Accounts clause

(6) (a) Unless otherwise approved by the Exchange, published Accounts shall be prepared in consolidated form and include a notation stating the names of any subsidiaries which incurred a loss for the period covered by the Accounts and the extent of such loss.

(b) When a company or its subsidiary has acquired a company which thereby becomes a 'related company' in terms of the Act or disposed of such a company and where the contribution or diminution to profits or losses is in excess of 10% of the consolidated pre-tax profit or loss disclosed in the last audited published profit and loss statement of the acquiring company, a statement is required as to:-

(i) in the case of an acquisition, the contribution to profits or losses of such acquisition and the date from which such contribution has been calculated and the profit or loss of such acquisition for the preceding twelve months accounting period.

(ii) in the case of a disposal the contribution to profits or losses of the related company disposed of and the profit or loss of the related company in the preceding twelve months accounting period.

Gibson argues that even the requirement to report the amount of losses incurred by subsidiaries may easily be avoided. He points out, 'To hide such a loss one only needs to transfer the trading transactions to another subsidiary without even bothering to transfer the bulk of the assets' ([27], p.52). Thus, for all practical purposes the directors of Australian companies can determine the amount, if any, of segmented data that is disclosed in annual accounts.
2.7 External Reporting - Voluntary Disclosures

Surveys conducted in the United Kingdom and the United States of America have shown a steady increase in the volume of disclosures of segment results since 1968. With the exception of 1974-75 in the United Kingdom, the rate of increase has been very consistent in both countries. The surveys of the American Institute of Certified Public Accountants and the Institute of Chartered Accountants in England and Wales do not provide details of the incidence of line-of-business data in reports prior to 1968. The introduction of the analyses of the incidence of segment disclosures in these surveys occurred at the time when increased attention was given to this topic in the general literature. It should be noted that both the six hundred United States' companies and the three hundred United Kingdom companies sampled were all large corporations and thus whilst they constitute important sectors in their respective economies they do not represent a majority of enterprises. Inferences drawn regarding the reporting practices of companies in general would be speculative; although it could be argued that because of their nature the companies reported in the surveys may act as leaders in introducing changes. No regular Australian survey of the incidence of voluntary disclosures of segment results in annual accounts has been undertaken to establish whether the pattern of steady increase found in the U.K. and U.S.A. has also occurred in this country.

United Kingdom - Analysis of Classes of Business Disclosed in Directors' Reports and Supplementary Information in Annual Accounts.

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Source: 1968/69 to 1975 Editions : I.C.A.E.W. 'Survey of Published Accounts' [41].

Sample: 300 companies - listed on London Stock Exchange and included on 'The Times 1000 Largest Industrial Companies'. 
The requirements for separated data in the United Kingdom specified in the Companies Acts relate to the directors' report. In addition to statements about the nature of 'principal activities' (Companies Act, 1967: S.16(1) and changes in 'the business' or 'the classes of business' (Companies Act, 1948: S.157(2)) the directors' report should contain an analysis of turnover and profit or loss before taxation of the company or group between substantially different classes of business. This analysis should state:

(a) the proportions in which turnover is divided among those classes (describing them), and
(b) the extent or approximate extent (expressed in monetary terms) to which in the opinion of the directors, each class of business has contributed to, or restricted, the profit or loss for the year before taxation.

(Companies Act, 1967: S.17)

The analysis of turnover and profit or loss before taxation by classes of business is required only where a company has carried on two or more such classes of business which, in the opinion of directors, differ substantially from each other: similarly the definition of 'separate activities' and the question of whether these are synonymous with 'different classes of business' is also left to the judgement of directors compiling reports.

In the United Kingdom, S.20 of the Companies Act, 1967 requires, subject to certain exemptions, companies or groups of companies, to state the value of goods exported from the country. In addition to the statutory requirements, paragraph 9(b) of the Stock Exchange 'Listing Agreement - Companies', requires the provision of a statement showing a geographical analysis of the turnover and of the contribution to trading results of trading operations of the company or group outside the United Kingdom. This widens the reporting requirement for listed companies because it includes both exports from the United Kingdom and also the results of activities carried out by overseas establishments.

In the United Kingdom all of the above figures, if required, are normally found in the directors' reports. In many cases directors have given particulars of activities and analysis of turnover and profits in combined statements, and sometimes these have been extended to include geographical analysis, using the same activity headings throughout. Other directors have analysed results of classes of business under a smaller number of headings than the list of principal activities or provided no such analyses on the grounds that their companies were engaged in one main activity to which all others were ancillary or because the activities were so closely integrated that it was not possible to analyse the results.
### United States of America - Business Line Reporting

#### Disclosed in Published Annual Accounts

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<td>114</td>
<td>83</td>
<td>59</td>
<td>30</td>
<td>27</td>
</tr>
<tr>
<td>By division or</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>subsidiary...........</td>
<td>106</td>
<td>91</td>
<td>98</td>
<td>88</td>
<td>70</td>
<td>53</td>
<td>26</td>
</tr>
<tr>
<td>By industry or type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of customer..........</td>
<td>18</td>
<td>20</td>
<td>19</td>
<td>13</td>
<td>17</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>By geographic area...</td>
<td></td>
<td></td>
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<tr>
<td></td>
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<td>16</td>
<td>12</td>
<td>16</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>340</td>
<td>271</td>
<td>247</td>
<td>196</td>
<td>162</td>
<td>107</td>
<td>69</td>
</tr>
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<td><strong>Separate financial</strong></td>
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<td><strong>statements or</strong></td>
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<td><strong>summaries for</strong></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>subsidiaries</strong>.....</td>
<td>63</td>
<td>58</td>
<td>68</td>
<td>65</td>
<td>79</td>
<td>65</td>
<td>44</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>entity operating at</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>a loss</strong>...........</td>
<td>26</td>
<td>13</td>
<td>28</td>
<td>14</td>
<td>55</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total Disclosures</strong></td>
<td>429</td>
<td>342</td>
<td>343</td>
<td>275</td>
<td>296</td>
<td>222</td>
<td>133</td>
</tr>
</tbody>
</table>

**Number of Companies**

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>line revenue and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>income..............</td>
<td>346</td>
<td>261</td>
<td>245</td>
<td>217</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disclosing business</td>
<td>103</td>
<td>140</td>
<td>148</td>
<td>158</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>line revenue only...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Not disclosing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>business line data..</td>
<td>151</td>
<td>199</td>
<td>207</td>
<td>225</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Companies</strong></td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
</tbody>
</table>

**Source:** 22nd to 29th Editions : A.I.C.P.A. 'Trends and Techniques' [4].

**Sample:** 600 Companies - registered with the Securities and Exchange Commission and reported in 'Moody's Industrial Manual' or 'Moody's OTC Industrial Manual'.
United States' corporations subject to Rule 14C-3 of the Securities Exchange Act, with effect to fiscal years ending after 19 December 1974, have been required to disclose 'in annual reports furnished to stockholders in connection with the annual meeting of stockholders' the following details contained in a five year analysis in Form 10-K: the revenue, and income or loss, from a 'line of business' and the revenue from 'a class of similar products and services' which accounted in either of the previous two years, for over ten (or fifteen) per cent of the respective total figures.

With the limited number of examples illustrated in the AICPA annual review of corporate reports, 'Trends and Techniques', the most common form of presenting segmented data is in a five-year summary tabular analysis. While segmented data forms an integral part of annual reports in the United States, its disclosure tends to augment the customary financial statements. For those companies registered with the Securities and Exchange Commission the provision of some segmented data is now mandatory if they have different 'lines of business' or 'classes of similar products and services. This obligation for these companies to report on segment activities now presently depends upon both the nature of their operations and upon the interpretation of the terms 'line of business' and 'class of similar products and services'.

A significant factor is that the date of commencement of the SEC segmented reporting obligation relates to companies with financial years ending on, or after, 20 December 1974. In 1973, seventy-five per cent of the six hundred companies in the American Institute's survey were voluntarily disclosing dividend revenues and forty-five per cent were reporting separate income from segments. Clearly the SEC rules can be considered as only adding impetus to a pre-existing trend in external reporting. The evidence provided by 'Trends and Techniques' does not allow a conclusion to be drawn as to how successful the 1967 recommendation of the Accounting Principles Board Statement Number Two [5] was in instigating the trend.

1 The exact wording and official amplification of these United States regulations is given, and analysed in more detail, later in this paper (pp. 69-71).
The evidence of United Kingdom and United States of American corporate segmented disclosures is important for a number of reasons. One of these was mentioned in the introduction to this study: this was that the practical problems of segmented reporting impact upon a larger reader audience and the issue of financial reporting for segments of business enterprises is in fact a problem of some significance. A second factor is that this overseas evidence displays a willingness on the part of managers, at least in larger companies, to extend their corporate reporting in this area. This is clearly the case, even in the United Kingdom where directors are under a statutory obligation. Present segmented reporting requirements appear to be easily avoided by careful choice of definition of terms such as 'line of business'. A further point is that the evidence tends to negate arguments by those opposed to this style of reporting that it is not feasible because of the costs involved and/or the presently unresolved difficulties of implementation. The final point is that these surveys highlight the diversity in form and content of segmented reports. Companies in both the British and American surveys lacked uniformity and consistency in this area: some gave no data whereas others gave varying amounts; some gave details of the methods they followed, other did not; some attempted to follow an approach for a number of periods to allow comparability, and again other did not. This almost unfettered managerial choice is of concern to the accounting profession. The basic questions with which they are confronted are the extent to which such latitude erodes the benefits which segmented reporting is presumed to have for statement readers; and whether this latitude can be effectively constrained, perhaps by the release of accounting standards.
CHAPTER 3
TRANSFER PRICES

3.1 Definitions

A problem that may be raised by a decision to provide results for segments of an enterprise is that of transfer pricing. Goetz's definition of a transfer price avoids the complications that arise when an enterprise is deemed to be a unit larger than a single company.

Transfer prices are the intra-company charges at which goods and services are sold by one organizational unit to another in the same company ([30] p.435).

Little attention has been given in the FASB Exposure Draft to the definition of a transfer price; it is clear however that transfer prices will be deemed to occur in the wider context of a multi-company enterprise. The determination of the transfer value of intra-enterprise exchanges of goods or services in the Draft is discussed in the following generalized terms:

...revenue (and consequently costs for the receiving segment) from intersegment sales or transfers of goods and services shall be accounted for at amounts that are consistent with the objective of determining as realistically as practicable the industry segment's profit or loss contribution and operating profit or loss ... (paragraph 26.)

It can be argued on the one hand that transfers at 'cost' are unrealistic, in that if the segments were autonomous and separate entities they would be expected to maintain sales prices above cost figures. Conversely, it could be argued that it is unrealistic to create a 'profit' by a transfer which for the enterprise as a whole can be regarded as an internal 'book entry'.

The matter is further complicated by varying interpretations of 'cost'. It is curious that some writers can consider a cost figure as being 'more realistic' than a cost-plus figure or some other alternative. Gibson is in this classification:

It is logical that any interdivisional profits arising from a transfer of goods within the company should be eliminated just as inter-company profits are eliminated from consolidated statements. What this amounts to is that all such transfers would be at cost including an
allocation of (joint or) overhead expenses so long as they meet the Horngren concept of 'relevant' costing. ([40], pp.323-5 and pp. 348-52.) This needs no further justification than to recognise that so far as shareholders are concerned revenue can only be realised when a sale is made outside the company entity and not by the mere device of an intra-company transfer ([29], p.47).

The propriety of determining segmental profitability when differing proportions of sales are derived from internal and external sources is not a matter of concern to Gibson nor to the FASB. Similarly, that the knowledge of such proportions and the transfer method utilized, may be considered by users to be a requisite for meaningful analysis of segmented reports is not specifically countenanced.

The method by which the practitioner is to proceed from a pre-determined concept of a 'realistically practicable result' figure to calculating a transfer value is not made at all clear in the Exposure Draft. Such a calculation would usurp the function of any resultant profit or loss figure as an indication of success or failure. Whilst the notion of a 'realistic' profit figure is not explained in the Draft, it is apparent that some notion of the segment being regarded 'as if it were a separate and independent entity' is involved. Such a construct is fictional. To place reliance on a fictional notion in the derivation of a 'realistic' figure is indeed a curious use of the word 'realistic'.

It may be argued that the transfer pricing problem exists independently of the segmented reporting issue. In the holding-subsidiary company relationship, intra-group selling prices and purchase costs may be amenable to central management direction. Thus the profits conventionally reported for an individual company within a 'group' may not be indicative of the results that would have been achieved had not the particular company been related, through its ownership and/or control. 'Consolidation' of results of such companies is advanced as a remedy for this situation. Consolidation procedures rely on specification of arbitrary rules for the determination of the existence of common ownership and/or the potential to exercise control. They also disregard the legal boundaries in an attempt to describe the 'reality' of the situation that may in part at least be evidenced outside the confines of the legal structure. That the operations and results of a particular company may have been subjected to
manipulation does not of itself alter the *prima facie* legal relationships.

There is an important distinction between the prices attached to the movement of goods and services between separately incorporated companies within a 'group', and the segments of a single company. In the first instance the transfer is a legally enforceable contract, in the latter it is not. With a contract the question of whether the consideration is an appropriate amount is usually not a matter of legal concern. It is not the determination of the figure for a transfer that is the critical issue, rather it is whether any figure should be reported. If the view is held that accounting practice is, or should be, concerned only with the financial aspects of those relationships recognized at law, then inter-company exchanges should be reported and intra-company dealings should be disregarded, notwithstanding any criteria for determining numbers to be used to price such transfers.

The test of legal recognition provides a form of outside evidence that is useful with regard to whether transfer prices need to be determined. It does not provide any guide to the price which should be used for such contracts. Thus even if the legal recognition test was accepted (this is not the case with the FASB) it would reduce the extent of the transfer pricing problem but not resolve it.

3.2 Difficulties in Implementing the FASB Exposure Draft

What remains unresolved for both single and multiple legal entity enterprises, is how a practitioner who attempts to implement the FASB proposals for segmentation would approach the problem of pricing transfers. A wide variety of techniques are advocated in the literature. These range from simple single criteria approaches such as 'market price', 'negotiated price' or 'cost', (defined in a number of ways), through to increasingly complex bases such as a two-part transfer price described by Troxel [91] the three-part transfer price advocated by Vendig [92] to a variety of combinations and permutations on the above bases. An example of one of these complex procedures, hedged with subjective notions of 'reasonability' and 'appropriateness', is advanced by Main Lafrentz and Co:
The buying division agrees to pay the transferring division its budgeted fixed costs plus its standard variable costs for the product actually transferred. Where less than the entire production of the transferring division goes to the buying division, an appropriate allocation of fixed costs is used instead of the total fixed costs. The allocation is based on forecast production, not actual production. Where variable cost standards are known to be tight, an allowance is made for a reasonable percentage of unfavourable variances. ([49], p. 807.)

Generally, in the literature the transfer-pricing problem has been viewed as a matter of internal concern, i.e. the province of 'managerial accountants' rather than a contentious external reporting issue of interest to 'financial accountants'. Thus, a review of accounting literature by a practitioner seeking to, or required to, present segmented external reports may not provide much assistance.

Wodjak, in suggesting that a cost basis may be useful for consolidating segmented data, recognizes that the suitability of bases may vary between internal and external reporting.

Transfer prices needed for financial reporting purposes may differ from those required for internal decision and management purposes. A particular transfer price base may be excellent for internal performance measurement purposes, for motivating divisional managers, for instituting and maintaining cost control programs, for achieving full utilization of excess capacity or for the proper allocation of firm resources; however, this same base may be inapplicable for external reporting purposes. ([97], p. 343.)

Reference to currently accepted practice is similarly unhelpful. The table below from a survey by Mautz ([52], p. 36.) is indicative of the wide variety of techniques utilized for internal reporting.
USE OF PRICING METHODS BY RESPONDENT COMPANIES WHICH HAVE INTRA-COMPANY TRANSACTIONS BETWEEN ORGANIZATIONAL UNITS

<table>
<thead>
<tr>
<th>Pricing Method Used</th>
<th>Number of Companies Using the Pricing Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. At cost to the shipping unit ..........</td>
<td>134</td>
</tr>
<tr>
<td>2. At a price established by arm's length transactions to which your company is a party</td>
<td>128</td>
</tr>
<tr>
<td>3. At a price established by arm's length transactions to which your company is not a party</td>
<td>53</td>
</tr>
<tr>
<td>4. At a price established by negotiations between the units concerned ..........</td>
<td>160</td>
</tr>
<tr>
<td>5. At cost plus a fixed fee or rate of mark-up ...............................................</td>
<td>143</td>
</tr>
<tr>
<td>6. Some other method .........................</td>
<td>60</td>
</tr>
</tbody>
</table>

Note: 175 of the 404 respondents to this question used more than one transfer pricing method and 63 transferred no products. The Mautz survey was based on responses to a questionnaire from the following categories of companies:

<table>
<thead>
<tr>
<th>Responses Obtained</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) 'Fortune' 500 1966 list 212</td>
</tr>
<tr>
<td>(ii) Random sample - Dun &amp; Bradstreet 'Million Dollar Directory) 200</td>
</tr>
<tr>
<td>(iii) Non-regulated Industrial Companies represented by FEI membership.</td>
</tr>
</tbody>
</table>

3.3 Transfer Prices and Internal Evaluations of Performance

Discussion of transfer pricing methods has been centred on two aspects related to the managerial function: motivation and evaluation of performance. Whilst those aspects have a significance to the user of externally available published financial reports, care must be exercised in evaluating the arguments presented. Unlike reports for internal managers, there can be no presumption of user familiarity with the details of the operations of the enterprise and/or the rules under which transfer values are determined. Notwithstanding the concentration in the literature on data for internal circulation, some aspects of the ramifications of transfer pricing methods in published financial reports have received varying levels of attention.
3.3.1 Internal Evaluations - Problems to be resolved

Where stock values are determined other than by reference to externally derived factors, e.g. market prices, the choice of transfer pricing approach may influence both the period and the segment with which a profit or loss becomes associated. This consequence of transfer pricing procedures has not been widely discussed in the literature. This may be due to the fact that transfer pricing is only one of a number of electives available for influencing inventory and profit figures if 'generally accepted accounting principles' are utilized. On the other hand, external facets of transfer pricing practices having received attention are sub-optimal decision-making, and taxation/excise minimization strategies.

In the first area a problem is seen to exist where decisions taken at the segment level are not harmonized with the objectives of the total enterprise. The most commonly cited case is the decision to purchase supplies outside the enterprise when the internal supply (transfer) 'price' is in excess of the outside acquisition cost; however, the outside cost is above the firm's incremental cost.

Wodjak provided the following concise example:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-cost transfer price of produce in Division A</td>
<td>$60</td>
</tr>
<tr>
<td>Outside price available to Division B for identical product</td>
<td>$50</td>
</tr>
<tr>
<td>Incremental cost (variable cost) of product in Division A</td>
<td>$15</td>
</tr>
</tbody>
</table>

The manager of Division B would purchase the product from outsiders at a $10 savings to his Division. However, total firm profit is reduced by $35 calculated in either of the following ways:

- Addition to total firm cost to purchase outside                           | $50    |
- Addition to total firm cost if produced by Division A                    | $15    |
- Decrease in total firm profit                                            | $35    |

- Savings by purchasing outside                                            | $10    |
- Loss in contribution margin by purchasing outside ($60-15)               | $45    |
- Decrease in total firm profit                                            | $35    |

([[97], p.344.)
He also notes that both the policy of allowing divisional managers unfettered choice of suppliers and the policy of insisting that commodities be purchased internally can lead to suboptimization. A considerable volume of literature employing mathematical techniques and economic modelling analysis has centred on this particular problem.  

An identified problem of a more general nature associated with this preoccupation with the goals of segment profit centres is the side effects of interdepartmental rivalry. Such rivalry may motivate higher levels of performance but may also have dysfunctional consequences resulting in lower total enterprise returns. For example, if transfer prices are based on a cost-plus formula, cost reduction within a segment may be avoided because it would lower segment profits, in spite of the fact that such action would benefit the firm as a whole. Similarly the level of transfer prices negotiated between managers will not affect total enterprise profits, however the time spent in such negotiations has a cost to the firm and also reduces the time available to managers for other activities that do produce profits for the enterprise. On the other hand, it is argued that actions beneficial to the firm as a whole, such as increased productivity, increased efficiency in the use of resources and increased levels of sales, may also result from decentralization and divisionalization, and that these will have a favourable impact on both segment profits and total enterprise profits. The net effect in terms of dollars and cents of these factors inherent in the profit centre approach is not determinable. It is clear, however, that any possible benefits of divisionalization may be accompanied by undesirable side effects. Stone argues that 'One of the chief advantages of the decentralized system is the healthy intra-company competition it engenders ... The great disadvantage is the 'dog eat dog' spirit it engenders'. ([87], pp. 625, 677.). Shillinglaw makes the following comment on internal disputes concerning divisional profits affected by transfer prices:

Yet to any observer of transfer price disputes in industry,

---

1. Abdel-khalik and Lusk provide a survey of work undertaken in this area, notably that of Hirschleifer 1956, 1957 [36], [37], Baumol and Fabian 1964 [11], Dopuch and Drake 1964 [24], Whinston 1964 [96], Hass 1968 [34], Onsi 1970 [61], Ronen and McKinney 1970 [69] and Jennergren 1972 [44].
it is apparent that absolute profit levels are important to managers. They will argue to get a price reduced (or raised if they are on the selling side) with as much vigour as they exert in inter-firm bargaining. ([76], p.162.)

Dearden mentions this same factor: 'One of the most annoying problems associated with many interdivisional pricing systems is the acrimonious debate and the resulting ill feelings which so frequently accompany price negotiations.' ([22], p.124.)

3.3.2 Internal Evaluations - Reference to Dealings at 'Arm's Length'

The case of enterprises, usually groups of related companies, trading across political boundaries has been considered in detail by Thomas [89]. He lists six goals, adapted from Shulman [77], pertaining to the firm's relationship with outsiders which may be furthered by appropriate choice of transfer prices:

1. Tax reduction as it applies to income taxes, customs duties, and various other kinds of taxes which may be 'managed'.
2. Reduction of the share of profits going to local minority-interest investors (or joint-venture-partnership investors) in the host country subsidiary.
3. Defeat or blunting of economic restrictions imposed by the host country (for example, repatriation of profits despite host country controls over dividend remittances).
4. Improvement of an affiliated company's credit status or general ability to raise capital extending to provision of reinvestment funds when there are barriers both to raising capital locally and to transferring it from abroad.
5. Subsidizing of the activities of a new venture including general strengthening of the competitive position of the total firm.
6. ... the benefits of price discrimination, when sales are made both to affiliates and to outsiders.

His argument is that:

... if a transfer price does not demonstrably approximate an arm's length price resulting from an equivalent transaction with an independent third party, the transfer price is arbitrary, (i.e. subject to manipulation) and the external party may be confident that any plausible
alternative which he might prefer will be at least equally defensible. ([89], p.46.)

Upon analysis of the conditions required for an equivalent arm's length transaction he concludes that in many cases these will not be satisfied 'in the field'.

Young is a writer who notes that even if an arm's length price can be established it too can have defects:

it should be appreciated that the existence of a market price arrived at by arm's length competitive bargaining between an independent buyer and seller does not always guarantee the best price for the optimum benefit of the organisation as a whole. Transfer prices agreed in these circumstances can motivate divisional managers to take decisions which are not in the company's interests, and therefore lead to a lack of goal congruence. ([98], p.106.)

Young illustrates this argument with the case of a decision to close down a supplying division because its costs of production exceed the alternative market price. Although the open market price is a result of arm's length bargaining it was a 'distress' price, that is, one 'unlikely to be offered for any length of time in the future'. Subsequently outside supply prices would rise to exceed internal supply costs had the production facility been retained. He also indicates that an arm's length transfer price will include allowances for selling, collection, credit control and bad debt expenses; as these costs will not be incurred on intra-enterprise transfers, a lower transfer price would be appropriate for decisions concerning the supplying division's cost effectiveness.

Thomas [89], claims that the opportunity for controllers of 'trans-national' enterprises to minimize total tax, excise, and other payments to governmental agencies through manipulation of transfer values between countries is recognized and well documented. The taxing authorities of most countries have the power to substitute alternative 'deemed values' in order to protect their revenues. A study of the criteria employed by these authorities does not provide a solution to the transfer pricing problem. Substituted values often rely on notions of 'dealings at arm's
length' or refer to values established by transactions in similar goods or services between unrelated parties. These bases may be appropriate for defending national interests with regard to protecting the revenues of the government, however, they represent alternative and equally arbitrary figures to those provided by an enterprise. Reference to an arm's length notion relies on the hypothesis that the transfer value between transferor and transferee should approximate or coincide with a price that would have been determined if they had been an independent willing buyer and an independent willing seller. Section 482 of the United States Internal Revenue Code illustrates the concern of governments to prevent tax evasion through transfer values:

> In any case of two or more organizations, trades, or businesses (whether or not incorporated, whether or not organized in the United States, and whether or not affiliated) owned or controlled directly or indirectly by the same interests, the Secretary (of the Treasury) or his delegate may distribute, apportion, or allocate gross income, deductions, credits, or allowances between or among such organizations, trades, or businesses, if he determines that such distribution, apportionment, or allocation is necessary in order to prevent evasion of taxes or clearly to reflect the income of any such organizations, trades, or businesses.

Holzman [39] describes the rules used by the Internal Revenue Service to determine the taxable income of companies under common control in five situations, viz: loans or advances, performance of services for another member in the group, use of tangible property, transfer or use of intangible property and sales of tangible property. In each case there is a reliance on the arm's length concept, including the imputation of notional transactions and costs where none may have been recognized by the companies concerned. These rules are important for the specific function of determining taxable income. They provide for the calculation of a range of transfer figures which will be regarded by the Internal Revenue Service as a prima facie limitation on company figures. A company's managers using a transfer price outside this range may be required to justify their decision. In essence the Internal Revenue Code rules do not preclude subjective decision making either by a company's managers or by the Internal Revenue Service. Furthermore there is no reason why the procedures required for lodging taxation returns should
be used to compile any other reports. Thus the arm's length concept, despite its embodiment in taxation laws does not help to resolve the problem of determining a defensible unique transfer price for exchanges between segments.

The suggestion to present segmented information to shareholders and creditors has broadened the ambit of the transfer pricing problem. It has been argued that in the situation where inter-segment trading occurs that separate disclosure of the type, volume, and method of valuation of intra-enterprise exchanges would be sufficient to enable these external users to evaluate segment profitability risk and potential for growth. Following this line of argument the question of which of the variety of approaches is 'best' becomes of diminished importance. Different authors adopt different criteria by which they appraise transfer pricing approaches, these include: employee motivation, evaluation of managerial performance, ease of implementation, and acceptability to the individuals affected by decisions based on data influenced by transfer prices.

3.4 Diversity of Opinion on Resolving Transfer Price Problems

The literature on transfer prices is extensive and a diverse variety of transfer pricing mechanisms have been canvassed, however it is important to indicate that for 'internal purposes' there remains considerable dissatisfaction with solutions offered to resolve the problem. The basic dilemma is that the use of the 'guiding hand' of central management is seen to be a diminution of the ideal of divisional autonomy, but without such centralized control, decisions that are sub-optimal for the firm may be taken and under a laissez-faire approach divisional managers may seek to subvert the transfer price mechanism to further their own ends. Gould described this latter disadvantage as follows: 'When divisions are judged on their profits, and at the same time have a hand in determining transfer prices, there is both the incentive and opportunity to cheat'. ([31], p.67.) Writers may be associated with one of four schools of thought.

3.4.1. Resolving the Problems - Optimal Solution Approaches

The first group of authors considered is those who believe that suitable
techniques are available, or can be derived, (perhaps through the complexities of mathematical methods) to solve the problems associated with transfer prices. For example, Holstrum and Sauls ([38], p.29.) argue that '... the opportunity cost concept is the key to the appropriate transfer price'. However, the determination of an opportunity cost transfer price is based upon reference, by central management, to an outside market for the commodity or service transferred. Both Gould and Cook discuss the problems associated with such an approach. Cook argues 'The situation where a real market alternative does not exist is quite common ... In this case, the market-price guide is no longer a reliable indicator of whether transfers are in the company's interest or not'. ([19], p.89.) Gould argues that even in this area some subjective determination may be necessary: 'In some cases the optimal transfer price can be associated with a unique market price, in others, it lies between two market prices so that there is no unique external guide.' ([31], p.62.)

Another example of this first group is Ronen and McKinney [69] who argue for the adoption of a concept of a transfer price between segments augmented by an internal 'subsidy' or 'levy'. Hirshleifer also recommends that divisions be charged with a 'tax' or credited with a 'bounty' to ensure that decisions taken by segment managers will not be contrary to the objectives specified for the total enterprise. ([37], p.100.) Onsi favours this idea and employs the term 'motivation costs' ([61], p.540.) Hirshleifer states that given technical independence, demand independence, and a perfectly competitive market for the commodity transferred, then:

the transfer price should be market price. If the market is imperfectly competitive, transfer price should be at the marginal costs of the selling division. The latter is the more general solution ... Where technological dependence exists, the situation is so complex that we have not been able to indicate even the nature of the general solution ... Where demand dependence exists, the analysis is rather complex. Generally speaking the solution falls between market price and marginal cost. ([36], p.183.)

Baumol and Fabian explore the use of a computational technique called the decomposition method, which permits the solution of linear programs involving very large numbers of variables and constraints, as
an aid in determining 'bonuses' and 'penalties' to effect internal pricing mechanisms in a decentralized but co-ordinated economic organization. The objective that was sought through the solution of a complex decomposition algorithm was the direction of divisional decision-making outcomes towards external economies and away from external diseconomies for the total organization. Despite the sophistication of the approach followed, these authors concluded:

However it is demonstrated that in many cases there exists no prices which will lead divisions to make independent decisions that are optimal from the point of view of the company (or the economy) as a whole. ([11], p.1.)

3.4.2 Resolving the Problems - Different Transfer Prices for Different Purposes.

The second school of thought may be considered as those authors who consider that no single approach is universally applicable, but that a variety of approaches (and a knowledge by the user of the approach adopted) may be appropriate for a variety of circumstances. Anthony et al. adopt this particular position:

Decentralized companies are different and they have different problems. Consequently, no single system of interprofit center relationships will apply to all companies. Each system must be tailor-made. Each company should attempt to develop the best combination of general systems ... In almost no case will the system be perfect. The object is to set up the least imperfect system ([7], p.28.).

Bierman is another writer opting for different transfer costs for different purposes, he states:

... that all of the above alternatives (five broad schemes are outlined) are reasonable and that the choice of the method to be used can be made only after the purpose for which the information to be used is determined. ([12], p.450.)

3.4.3 Resolving the Problems - 'caveat user' Approaches

A third group consists of those writers who believe that the problem cannot be satisfactorily resolved, but advocate continued usage despite such reservations. For example Greer ([33], p.10.) reaches this type of qualified conclusion:
... the problem is inherently insoluble. This does not mean, however, that the practice of assigning transfer prices to interdivisional movements can be abandoned. Some value must be placed on each element of input and output, or the whole structure of intra-departmental analysis and control will fall to pieces.1

Cook is another writer expressing the view that usage of transfer prices, despite difficulties, may be justified.

A company might well find that the effects of incentives and profit evaluations, in terms of innovativeness, creativity, and hard work, far outweigh the disadvantages inherent in a somewhat illogical transfer-price system and somewhat misleading financial reports. ([19], p.94.)

Cook does not consider the consequences to outside users of the 'somewhat misleading' financial reports nor offer any justification for the proposition that for these individuals, the advantages will 'far outweigh the disadvantages'.

3.4.4 Resolving the Problems - Opposition to the Use of Transfer Prices

The fourth group of writers are those who agree that the problem is insoluble, but argue that the problem has been created by the adoption of unnecessary concepts. That is, that the aims of motivation and evaluation may in fact be better achieved by other means. Wells [94] argues that if suggestions of Goetz [30] and Henderson and Dearden [35] for the abolition of profit centres (as distinct from responsibility centres) are followed then transfer prices are neither useful nor meaningful. Wells ([95], p.56.) suggests that a set of integrated budgets may provide a better basis for control and evaluation of managers than divisional profits involving fictional costs or revenues.

Transfer prices are only needed if some attempt is to be made to calculate a divisional profit. If no attempt is to be made to calculate that profit, then transfer prices serve no useful purpose.

1. This view is in direct opposition to Wells, Goetz and Dearden who would agree that 'intra department analysis and control' would 'fall to pieces' but only insofar as it is based upon fictional profit centres and transfer prices, and that such analysis and control would be better exercised from other data in any case.
In the province of managerial evaluation, the use of negotiated transfer prices provides a basis for appraising a segment manager's skill at negotiating internal transfer prices and nothing else. The implication in the arguments of proponents of negotiated transfer prices is that this skill is indicative of other bargaining skills of the manager. A more direct approach to assessing the level of these particular skills is warranted. No skills in negotiating transfer prices are needed if transfer prices are not used. It has been argued that the suggested alternative of a set of integrated budgets, set in collaboration with divisional managers, would also develop managerial attributes not directly relevant to the attainment of the objectives of the enterprise, that is, skills in negotiating budgets. The problem of directing subordinates attention towards those operational factors subject to their control and away from the devices designed to assist in assessing their performance of that control, is a general problem that will not be avoided by not using transfer prices. Thus the conclusions reached by Abdel-khalik and Lusk may more properly be regarded as reducing the ambit of this problem rather than as providing a solution to it. Their conclusions are, inter alia, that:

- In many cases, transfer pricing unnecessarily complicates the organizational design and decision-performance controls.
- Performance evaluation does not have to be a function of profits. It can be a function of cost, of deviations from standards, and/or of physical units of output which may be incorporated into control systems.
- ... transfer pricing may blur the evaluation perspective when the evaluation of performance is strictly profit-oriented.
- ... the same degree of control and evaluation attempted through transfer pricing models may be effected through the setting of standards of divisional performance and the evaluation of deviations from these standards. ([1], p.23.)

3.5 Review

Goods and services may be transferred between segments of an enterprise. If it is necessary to report profit figures for these segments, some cost will need to be determined for the transferred resources. There is a diversity of techniques advocated in the literature and used in
practice to calculate such figures. No single method has been shown to be satisfactory for the purposes of motivating and assessing managerial performance, ensuring that divisional managers are seeking to attain total enterprise goals, and meeting criteria employed by governmental controlling agencies. It has been argued that for the purposes of managers within a firm, despite advocates for a number of approaches to determining transfer prices, such figures are not necessary. However, alternatives which retain the benefits of profit centres without at least some of the dysfunctional problems have not been developed. Where segments correspond with, or transcend, the boundaries of legally recognised separate entities, transfer prices, which are contractual obligations, must be determined. No method of obtaining a defensible unique figure for this purpose has been found. The FASB recommendation that the transfer price should be one that achieves a 'practically realistic' result does not in any way aid in resolving this problem and represents an acceptance of incorporating subjective evaluations into reported profit figures.
CHAPTER 4
COST ALLOCATIONS

The term 'cost' in the title of this chapter is used in a broad context; it encompasses both the 'expense' and 'asset' aspects associated with the deployment of funds by an enterprise. These categories of cost are involved in the arguments surrounding the segmented reporting issue in two ways: when a cost is expensed it may enter into calculations regarding segmental profitability, and when a cost is capitalized it may enter into calculations, such as rate of return computations, to gauge the segmented profits previously determined. Consideration in this chapter is given to the problems of associating expenses with segments and to the derivation of segment contribution and profits. Division of assets is also discussed in conjunction with arguments concerning reporting of rates of return from segments. This section of the paper is organised as follows: initially the broad nature of the problem, the recognition afforded to it, and suggested 'solutions' in the general literature are discussed; attention is then focused on the approach suggested in the FASB Exposure Draft to resolve the dilemma of cost allocations in segmented reporting.

4.1 The Problem of Cost Allocations

Consideration of the problem of dividing essentially unitary transactions has occupied a considerable volume of accounting literature. The problem occurs in two broad areas: when costs and revenues relate to time spans greater than the accounting period, and when costs and revenue relate to separately reportable classes within an accounting period. In this latter category two groups may be distinguished. Division of costs and revenues may be viewed as being necessary because of classifications used in the reports and accounting system; for example, a motor vehicle may be used by both production and sales staff, an accountant may wish to report part of the total cost of operating that vehicle for a period as a factory overhead item and part as a selling expense. (Under traditional product costing techniques and inventory valuation approaches some part of the factory overhead cost may be capitalised in inventories.
and thus like the first category of 'inter-period' allocations, 'classification' allocations can effect profits determined.) Similarly there is the problem of 'costing' a variety of products using resources in common. Finally there are those allocations, studied in more detail here, that would be required if accounting reports were to be divided into notional sub-divisions. These different types of allocation problems operate simultaneously in conventional accounting. Thus the decision to separately identify and report on 'classes of business' or 'divisions' of a firm represents an extension, or a compounding, of the difficulties presently encountered by many accountants with regard to allocations.

Thomas [88] [90] has intensively studied the problem of allocations in financial accounting, especially with respect to 'inter-period' allocations, and has concluded that there exists no single theoretically, defensible basis on which allocations are made. In his second research study on the topic [90] he reviews suggested alternatives which aim to avoid making allocations rather than attempting to select a method, or methods, or accomplishing divisions. In this paper attention is restricted to the particular problems of allocation that become necessary following upon a decision to prepare segmented data. Thomas' work, however, does have a direct relevance to this paper for two reasons: if he had been able to discover a panacea for 'inter-period' allocations this would have provided a first avenue of enquiry into resolving the problems of 'inter-segment' allocations; the second reason is that Thomas' suggestion, that the more important question to be answered may be 'are allocations necessary?' rather than 'which is the best method of undertaking allocations?', may be appropriate to those allocations generated by the decision to segment accounting reports.

Almost without exception, the literature on segmented reporting expresses the view that allocations, particularly of 'common cost' items, is a significant problem for implementing segmented reports. Studies by Mautz and Skousen [52] [53] provide evidence of the extent of the difficulties. Mautz ([52], p.30.) indicates that over fifty per cent of financial executives responding to his survey mentioned the allocation of common costs as a major concern. He also found that over two-thirds
of corporate respondents used more than one basis of allocation.

NUMBER OF DIFFERENT ALLOCATION BASES USED WITHIN A
COMPANY TO ALLOCATE CENTRAL ADMINISTRATION
TYPE EXPENSES TO ORGANIZATIONAL
UNITS OR PRODUCT LINES

<table>
<thead>
<tr>
<th>Total Number of Different Allocation Bases Used</th>
<th>Allocation to Organizational Units</th>
<th>Allocation to Product Lines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>One Basis ......</td>
<td>83</td>
<td>27.1%</td>
</tr>
<tr>
<td>Two Bases ......</td>
<td>80</td>
<td>26.2%</td>
</tr>
<tr>
<td>Three Bases ......</td>
<td>69</td>
<td>22.5%</td>
</tr>
<tr>
<td>Four Bases ......</td>
<td>50</td>
<td>16.3%</td>
</tr>
<tr>
<td>Five Bases ......</td>
<td>16</td>
<td>5.2%</td>
</tr>
<tr>
<td>Six Bases ......</td>
<td>6</td>
<td>2.0%</td>
</tr>
<tr>
<td>More than six bases</td>
<td>2</td>
<td>.7%</td>
</tr>
<tr>
<td>306</td>
<td>201</td>
<td></td>
</tr>
</tbody>
</table>

Source: Mautz [52], Table 3, p.31.

An examination of the effects of various bases for allocating non-inventoriable common costs was conducted by Mautz and Skousen on six companies. As illustrated below for Company A of their survey, significant variation in both the amount and the ranking of the results of segments is possible using customary allocation bases.

AMOUNTS OF SEGMENT NET INCOME FOR SIX COMPANIES
RESULTING FROM USING VARIOUS BASES FOR ALLOCATING
NON-INVENTORIABLE COMMON COSTS

<table>
<thead>
<tr>
<th>Bases for Allocating Non-Inventoriable Common Costs</th>
<th>Amounts of Net Income - Company A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Segment 1</td>
</tr>
<tr>
<td>Assets employed ......</td>
<td>$ 6,510</td>
</tr>
<tr>
<td>Sales..............</td>
<td>4,706</td>
</tr>
<tr>
<td>Capiital investment in segment for current year</td>
<td>6,811</td>
</tr>
<tr>
<td>Gross profit............</td>
<td>7,262</td>
</tr>
<tr>
<td>Number of employees...</td>
<td>7,112</td>
</tr>
<tr>
<td>Range from high to low</td>
<td>$ 2,556</td>
</tr>
<tr>
<td>Range as a percent of segment net income per company</td>
<td>39.3%</td>
</tr>
</tbody>
</table>
INFLUENCE OF BASIS FOR NON-INVENTORIABLE COMMON COST ALLOCATION ON RANKING OF SEGMENTS BY ABSOLUTE AMOUNT OF SEGMENT NET INCOME FOR SIX COMPANIES

<table>
<thead>
<tr>
<th>Bases for Allocating Non-Inventoriable Common Costs</th>
<th>Company A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Segment 1</td>
</tr>
<tr>
<td>Assets employed</td>
<td>Third</td>
</tr>
<tr>
<td>Sales</td>
<td>Third</td>
</tr>
<tr>
<td>Capital investment during current year</td>
<td>Second</td>
</tr>
<tr>
<td>Gross profit</td>
<td>Second</td>
</tr>
<tr>
<td>Number of employees</td>
<td>Second</td>
</tr>
</tbody>
</table>

Source: Mautz [52], Tables 7 and 8, pp. 370, 372.

Shillinglaw considers the problem of allocations in respect of assets to be used as a component of divisional performance indicators; he concluded that:

The crux of the problem is not so much the difficulty of tracing centrally administered assets to divisions, although this may be a difficult task. Rather, it is the inability of the division managers to control central office asset balances. If the division manager has no control over asset balances, the return on investment ratio will be a poorer reflection of the manager's performance if the investment base is allowed to fluctuate with changes in these balances. Most of the commonly used allocation methods fail to meet this requirement. ([74], p.28.)

That there exists no widely recognized solution to allocations is generally common ground, however the consequence of this state of affairs is where considerable diversity of opinion exists. The implementation of allocations has thus been a source of contention in both the theoretical, rule-making, and practical areas of accounting. There has been a need to determine an allocation of corporate overheads for those United States' companies that have attempted to implement APB Opinion Number Thirty 'Reporting the Results of Operations'. Jaenicke and Rascoff [43] described the requirement to separately report the results from discontinued operations as a critical 'unresolved issue'. Rausch argued that the methods actually chosen in practice to allocate common costs may
result more from 'political' pressures than from considerations as to
the theoretical propriety of the alternative techniques.

... the fixed costs ... cannot be apportioned on the
basis of universally accepted principles but rather
become decisions that are unique to each organization.
... this leaves what sometimes amounts to an entire
department's future to the political leanings of those
who influence decisions on cost allocation. The
formula can be determined purely by authority or in a
democratic process, where any viewpoint is given
appropriate weight - partly on the basis of "merit"
and partly on the basis of the "political strength"
possessed by the people who support it. ([68], pp. 6,7.)

4.2 'Solutions' to the Problem

In this section an indication of the various responses offered to
the problem of those allocations made necessary by decisions to present
segmented reports is given. Not all of these responses may be properly
described as 'solutions' for they include suggested 'best' techniques,
outright rejections of accounting systems dependent on allocations, and
arguments that allocations are a 'fact of (accounting) life' and
something that has to be tolerated.

With those authors who urge avoidance of allocations two related
groups may be discerned: there are those who conclude that the benefits
to be gained do not outweigh the difficulties involved, and there are
those who consider that the benefits themselves are, in fact, illusory.
The results of a 1951 study provide an interesting example of both
these points. The survey by the National Association of Cost Accountants
of seventy companies showed that:

A substantial number of companies group all non-
manufacturing costs into a few broad classes and
allocate them on the basis of sales volume or factory
cost of goods sold. The resulting segment costs are
averages which tend to obscure the very differences
which management needs to know. ([60], p.546.)

However some of the companies had attempted to assign these costs to
'products, territories and other segments' in a more precise manner, had
done so by:
incorporating the necessary allocations into repetitive accounting routines. Methods chosen were modeled after factory costing techniques originally devised for the quite different purpose of costing inventories. The result had been a substantial expenditure for clerical work to obtain costs which management did not find particularly useful. ([60], p.547.)

In 1965 Solomons concurred with a conclusion by Simon et.al:

... where the activities of two or more divisions of a company are in fact highly interdependent, it is very difficult to allocate total company profits among the divisions in a rational, precise manner.
... However convenient it would be for top management to have a single profit figure to summarise divisional performance to serve as a divisional incentive, it may turn out that such a simple but unrealistic criterion is less helpful than the more subjective but realistic bases which are commonly used for judging divisional management. ([78], pp. 41, 42.)

Solomons stated in more straight-forward terms that:

The fact is that nothing is to be achieved by a system of fictitious profit responsibility such as the one described above which cannot be achieved without it. ([81], p.164.)

In 1968 Walker argued unequivocally:

This concern with the arbitrariness of the calculated profit for classes of business is somewhat ironic. These allocation procedures would merely be an addition to the list of arbitrary procedures already adopted in accounting practice. ... While many writers have gravely pointed out that allocations may be misleading, none have managed to indicate when they would not be misleading. The answer is, of course, never. ([93], pp. 31,32.)

It is apparent from a review of the literature that there has been, for a considerable period of time, a group of accounting writers who express doubts about the feasibility of preparing segmented accounts because of the problem of cost allocations. On the other hand there are those who believe that these critics are expecting of segmented reports, qualitative attributes not possessed by other currently prepared conventional accounting statements. Many writers are prepared to tolerate, and even endorse, the fact that subjectivity will be required if allocated figures are needed for reports on segments. Most of these
writers incline to the view that the practice of accounting is not a purely scientific undertaking. It is possible to cite many authors whose statements parallel one by De Francesco:

Allocation is recommended in spite of the fact that certain somewhat arbitrary methods are used. The art of accounting still requires the systematic application of judgment in many cases and it is in the area of allocations, whatever the level in the organization, that use of this judgment factor is tested to its utmost. ([23], p. 58.)

Mautz, despite the recognition he affords to the problems caused by allocations, is a writer who believes that the appropriate means of overcoming these problems is to simply let management decide on the appropriate bases for allocation.

Management, because of its familiarity with company structure, is in the most informed position to separate the company into realistic components for reporting purposes. ([52], p. 158.)

He recommends disclosure of changes in methods and of cases where the allocation method 'significantly affects the reported contribution to income of the reporting components'. However Mautz fails to describe a significant effect, and to indicate how the effect itself is to be determined. He concludes that: 'Because of the innovative nature of these recommendations and the innate complexities of reporting diversified activities, the recommendations should be applied with judgment and flexibility by all concerned'. ([52], p. 158.) Thus some writers are prepared to undertake segmented reporting without concern that allocations are an unresolved problem.

Some writers suggest that some methods of allocation are preferable to others. For example, Anthony et.al., in relating the allocation of common services costs to transfer prices, adopt budgeted figures as a strategy to lessen the extent of the problem.

If management does decide to allocate costs, the traditional cost accounting techniques for estimating the 'fair share' applicable to each decentralized unit are satisfactory. However, when costs are allocated, the budgeted costs, not the actual costs, should be allocated. In this way, the allocations will not effect divisional profit performance, and any variance will appear against the organizational unit responsible. ([7], p. 279.)
The implication here is that the division will be judged solely on differences from budget, if this is the case, since the same figures are to be used in both totals, that is budget and 'actual', allocation of the (budgeted) costs appears to be unnecessary. Schachner and Fremgren are authors who urge the use of incremental approaches. Schachner however recognises that this technique may not suit all classes of commonly used assets and reverts to 'areas of occupancy' and 'share of usage' for facilities. ([71], p.48.) He considers the methods that he suggests are 'plausible' and 'not apparently unreasonable to management' although 'admittedly arbitrary'. ([72], p.307.) Fremgren considers that the concept of divisional profit should be based on incremental (avoidable) revenues less incremental costs. The fact that total divisional profits may not equal company profits was not of concern to him because he considered the ideas to be unrelated:

Both company and divisional profits are valid and useful concepts. They relate to different levels of decision making, however; and the measurement rules for one must not be imposed on the other. ([28], p.28.)

Most writers do not commit themselves to particular approaches for dividing common financial elements. There are frequent guarded assertions that the method to be used should be the one that is most reasonable and appropriate in the circumstances. Determining what is 'reasonable' and 'appropriate' then becomes a professional duty of the management and/or the accountant. A similar category is the writers who consider that allocations should be undertaken only when the problems are not 'too serious'. Again determining the seriousness of the problem falls within the province of those preparing the accounts. Many authors subsume at least two categories in the cost area 'traceable or attributable' costs and common costs which may be charged to divisions with varying levels justification. The propriety of charging the 'directly traceable', variable, or incremental costs is challenged elsewhere in this paper, however just where the division between these two cost categories falls is a point most frequently avoided in the literature.

A result of this division of costs, on the basis of ease of segmentation, is that proposals to report segment results on a partial basis are common. These 'partial' proposals include those that suggest that segmented reports may be issued for internal use but would be misleading
to external recipients because they lack detailed knowledge of either or both the operations of the company and its accounting methods. They would also embrace those suggestions where some costs (and perhaps revenues) are attributed to segments where other items are left intact as 'corporate' figures. Combinations of both schemes for partial disclosure are a third possibility.

It is evident from the general literature, and from accounting textbooks, that there are many ways in which allocations can be undertaken; there is however no consensus as to whether they should be undertaken. Further, there is disagreement between the proponents of segmented reporting as to whether it should be undertaken on a full or partial basis, and as to the preferred criteria for achieving the necessary divisions. Most writers are aware of the nature of the underlying cause of the problem which is expressed by Backer and McFarland in these terms:

... the significant characteristic of a joint cost situation is that individual segments in a combination have no separate costs. While accountants allocate joint costs in a variety of ways, all of their procedures are essentially arbitrary ... Equally competent accountants may arrive at quite different segment costs by choosing different allocation methods and there is no way to prove that any one set of figures is correct to the exclusion of the others. ([9], p.23.)

There is disagreement however as to the ramifications of the variety of possible results under various allocation methods. Some writers argue that the size of the differences that emerge from using the commonly accepted approaches are unlikely to be material. Bain supports Solomons argument ([82], p.60.) in this regard:

Opposition to divisional reporting has centred around the accounting problems that would be involved, principally those relating to the allocation of common costs and shared assets and the treatment to be accorded to interdivisional transfers. While such problems exist, their importance should not be exaggerated. For one thing, the more disparate a company's divisions, the fewer are the costs and assets they will share. It is precisely in the wide ranging "true" conglomerate that the problem of allocating joint costs and assets is minimal. ([10], p. 605,606.)

Another argument used by those writers favouring segmented reporting is that consistent application of allocation techniques, at least to some
extent, will offset the fact that the application of the technique is itself arbitrary. Sprouse attacks this view and argues that this constraint does not constitute a solution nor a defence to criticisms based on the exercise of choice by accountants.

In financial reporting, however, accountants have relied on the concept of consistency to mitigate the effect of arbitrary allocations and to prevent misleading comparisons. Arbitrary methods of allocation that are chosen are expected to be applied in a consistent fashion period after period. Unfortunately, consistency is not a completely satisfactory solution and the fact that accountants have relied on a less-than-satisfactory solution for a long time is not particularly comforting. ([83], p.37.)

The foregoing survey of ideas held by accounting writers on the cost allocation problem in segmented reporting suggests that any proposals issued by the FASB would be likely to cause controversy. An analysis of the recommendations they make with regard to this problem can initially be judged on two criteria: whether the Board can justify a conclusion that cost allocations in some form should be made (as distinct from merely asserting that cost allocations can be made); second, if cost allocations should be undertaken, which methods should be adopted and why these are superior. A further third factor can be examined, even if the FASB proposals are unsatisfactory on the first two grounds. That is, whether the draft rules they advance would in fact constrain the variety of results possible under the present diverse practices. That is, in the American context, how effectively does the FASB arbitrate in an area where there is general agreement that practices are arbitrary.

4.3 Cost Allocations and the FASB

The FASB Exposure Draft employs a three-way break down of expenses. There are costs which are described as 'directly identifiable' with segments and there are two groups of costs that are labelled as 'common costs'. These common costs may or may not be attributed to particular segments. According to the Exposure Draft, this choice is dependent upon the nature of the item concerned and the ease which it may be associated with the operations of a particular segment. This category of 'common cost' is one that has received considerable attention in the literature.
Many writers do not undertake the same detailed consideration with the 'directly identifiable' costs category.

4.3.1. Directly Traceable Costs - Definition

The Discussion Memorandum includes this definition of 'traceable costs': 'costs which are, ... incurred solely by or for, or directly identified with a particular segment'. ([25], par.133.) In the following paragraph Rappaport and Lerner's subdivision of traceable costs is suggested as a possible refinement to the contribution approach. This subdivision is based upon aspects of variability and controllability, but the Discussion Memorandum does not specifically indicate that these are the bases upon which division of these costs may be accomplished.

1. **Variable expenses** - direct material, direct labor, variable factory overhead and sales commissions.
2. **Managed expenses** - expenses incurred at the discretion of management including such items as advertising, sales promotion, product engineering and new product research.
3. **Committed expenses** - expenses which are neither responsive to volume nor management decisions in the current period and are essentially fixed amounts under existing operating conditions. These expenses include such items as depreciation, property taxes and insurance. ([66], pp. 15, 16.)

Paragraph 27 of the Exposure Draft contains a requirement to disclose the profit or loss contributions of an industry segment, that is, the revenue attributed to a segment minus directly traceable costs and expenses. In paragraph 10d. a definition expanding that given in the Discussion Memorandum is offered:

Directly traceable costs and expenses are those that are incurred directly by or for, or are otherwise directly identifiable with the industry segment, including costs and expenses that relate to both revenue from sales to unaffiliated customers and revenue from inter-segment sales or transfers.

This definition adds little in the way of a concrete basis upon which the direct identification of costs is to be achieved. The reference to segment revenues and the application of a 'segmented matching concept' is unhelpful unless the basis upon which revenues are divided is known. At this point, it seems that reference must be made to the criteria upon which the
separate segments were defined. Rappaport and Lerner's guideline is 'basic activities'. There is a circularity of argument here which leaves the determination of costs for a segment as subjective as the choice of a definition of a segment upon which it is dependent.

Basic activities are activities that generate both revenue and expense streams; they can be structured by product, market or both. ([66], p.12)

4.3.2. Directly Traceable Costs - An example of difficulties in implementation

It can be shown that in the area of those costs that are described as 'identified segment costs', there remains scope for a diversity of reported results. In the case of direct material (the first listed expense in Rappaport and Lerner's classification) there may be a variety of situations which would give differing costs, and consequently contribution and profit figures. If the material was one that was used in a number of segments and a central stock record was maintained with segments being charged for materials from the central office then, under conventional historical costing approaches, the cost would be determined according to one of the five following cost movement assumptions: (1) last-in-first-out, (2) first-in-first-out, (3) moving average, (4) standard cost, or (5) identified cost. If, to avoid making this choice, separate stock records and/or stock holdings are maintained on a segmented basis there may still be a situation where an interdependence exists. If the goods are purchased from the same supplier then a quantity discount or rebate scheme may operate. To demonstrate, assume a supplier's schedule is as follows:

<table>
<thead>
<tr>
<th>Total of Month's orders to</th>
<th>25 tonnes - $10.50 per tonne</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 tonnes</td>
<td>$10.00 per tonne</td>
</tr>
<tr>
<td>100 tonnes</td>
<td>$ 9.50 per tonne</td>
</tr>
<tr>
<td>over 100 tonnes</td>
<td>$ 9.00 per tonne</td>
</tr>
</tbody>
</table>

A purchasing company lodged, in response to requisitions from the segment indicated the following orders:

<table>
<thead>
<tr>
<th>July</th>
<th>10 tonnes</th>
<th>(Segment A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>20 tonnes</td>
<td>(Segment B)</td>
</tr>
<tr>
<td>18</td>
<td>60 tonnes</td>
<td>(Segment B)</td>
</tr>
<tr>
<td>26</td>
<td>40 tonnes</td>
<td>(Segment A)</td>
</tr>
</tbody>
</table>
Total orders for the month were 130 tonnes and the suppliers invoice would be $1,170, i.e. 130 tonnes @ $9.00 per tonne. One approach to dividing this cost between the two segments would be to consider what would have been the cost to each had they separately dealt with the supplier:

A would have incurred $500 viz. 50 tonnes @ $10.00
B would have incurred $760 viz. 80 tonnes @ $ 9.50

The difference of $90 between the imputed total cost of the separate segments of $1260 and the total cost for the diversified enterprise of $1170 could then be treated in a number of ways:

(1) it could be regarded as common income and not divided between the segments;
(2) it could be treated as a rebate to segments, calculated by reference to the share of the total purchase quantity generated by each segment, viz.

A 50/130 of $90 = $34.62
B 80/130 of $90 = $55.38

The charge to Segment A for its requisitions would thus be $465.38 and to Segment B, $704.62, comprising the total of $1170.00;

(3) it could be treated as a rebate, calculated by reference to the sequence of orders/requisitions, viz.

<table>
<thead>
<tr>
<th>Order</th>
<th>Progressive Total</th>
<th>Rate</th>
<th>Cost</th>
<th>Incremental Cost</th>
<th>To Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$</td>
<td></td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>2</td>
<td>10 tonnes 10 tonnes</td>
<td>10.50</td>
<td>105.00</td>
<td>105.00</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>20 tonnes 30 tonnes</td>
<td>10.00</td>
<td>300.00</td>
<td>195.00</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>60 tonnes 90 tonnes</td>
<td>9.50</td>
<td>855.00</td>
<td>555.00</td>
</tr>
<tr>
<td></td>
<td>26</td>
<td>40 tonnes 130 tonnes</td>
<td>9.00</td>
<td>1170.00</td>
<td>315.00</td>
</tr>
</tbody>
</table>

The total charge to Segment A would be $420 thus it would require a rebate of $80, and Segment B would require a rebate of $10 to leave a charge of $750.

A fourth alternative would be to divide the total cost of the purchase in proportion to the quantity requisitioned by each segment, viz.

A 50/130 of $1170 = $450.00
B 80/130 of $1170 = $720.00

Which of the above nine methods would apply in practical situation is not determinable from the Exposure Draft. The selection of a method
would be a choice exercisable by those individuals responsible for preparing the segmented reports. It is recognized that, in part, this range of options is a consequence of the diversity of practice allowable under 'generally accepted accounting principles' for the enterprise as a whole, however these operate in conjunction with segmented reporting to introduce arbitrariness into that area where costs are 'directly attributable' to segments. Similarly, it is recognized that in a practical situation with timing differences in requisitions and orders, and multiple products obtainable from the same supplier there may be more diverse techniques available than the nine listed above.

The segmented reporting requirements of paragraphs 10d and 10e of the Exposure Draft provide for enterprises to present, for each industry segment, statements in the following format:

<table>
<thead>
<tr>
<th>Sales to unaffiliated customers</th>
<th>Segment A</th>
<th>Segment B</th>
<th>Adjustments</th>
<th>Consolidated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersegment sales</td>
<td>\textit{XX}</td>
<td>\textit{XX}</td>
<td>\textit{X}</td>
<td>\textit{XX}</td>
</tr>
<tr>
<td>Total Revenue</td>
<td>\textit{XXXX}</td>
<td>\textit{XXX}</td>
<td>\textit{X}</td>
<td>\textit{XXXXXXXX}</td>
</tr>
<tr>
<td>Less Directly Traceable Costs</td>
<td>\textit{X}</td>
<td>\textit{X}</td>
<td>\textit{X}</td>
<td>\textit{XXXX}</td>
</tr>
<tr>
<td>Profit Contribution</td>
<td>\textit{XXX}</td>
<td>\textit{XX}</td>
<td>\textit{X}</td>
<td>\textit{XXXX}</td>
</tr>
<tr>
<td>Less Allocated Operating Costs</td>
<td>\textit{X}</td>
<td>\textit{X}</td>
<td>\textit{X}</td>
<td>\textit{X}</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>\textit{XX}</td>
<td>\textit{X}</td>
<td>\textit{X}</td>
<td>\textit{X}</td>
</tr>
</tbody>
</table>

It can be seen from the more detailed Exhibits B and C of the Exposure Draft (reproduced as Appendix 1 in this paper) that some other costs may, as is the case in Exhibit C, or may not, as is the case in Exhibit B, be attributed to the segments. With this group of items, the choice to allocate or not, and the selection of a basis when such an allocation is to be made, are options open to those preparing the statements. The allocated figures, however, must be shown below the operating profit line. This group of items about which there is apparently greater doubt as to the availability of suitable bases or the utility of the resulting figures, includes: revenue earned and general and administrative expenses incurred at the enterprise's central administrative office, interest expense, domestic and foreign income taxes, gain or loss on discontinued operations, extraordinary items, minority interest, and the cumulative effect of a change in accounting principle. Before considering in greater detail the allocated operating costs it is an interesting sidelight to note that because of the adjustments or eliminations column in the above statement it is not possible to determine a share of the consolidated or enterprise
total figure for particular segments.

4.3.3 Common Costs - Allocated to Segments

Those costs, that are reported between profit contribution and operating profit are described in paragraph 10e of the Exposure Draft as the '... allocated share of operating costs and expenses not directly traceable to industry segments ... but allocated to (them) on a reasonable basis. In exactly the same way as the Board did not indicate what was meant by 'directly traceable' there is no explanation given as to what is meant by 'a reasonable basis'. Reference to the Discussion Memorandum does not clarify this latter term. No examples are cited which discriminate between an unreasonable allocation and a reasonable one. The broad question: 'Should common costs which are not traceable to individual segments be allocated to the various segments and, if so, on what basis?' is Question 3.2(a) of the Discussion Memorandum. Paragraph 137 limits the consideration given to the problem to those common costs which are non-inventoriable. The same paragraph explicitly recognizes that some manufacturing costs may be common to more than one segment and that these costs could affect total enterprise consolidated net income, yet these are inexplicably excluded from consideration. The sections of the Exposure Draft and the Discussion Memorandum dealing with assets, make no reference to this problem in the limited attention they devote to inventories.

The Discussion Memorandum provides a review of the arguments both for and against allocation of common costs. The Board's justification for its choice of insisting that an allocation be made of some common expenses is given in paragraph 76 of the Exposure Draft:

...presenting profitability both before and after allocation of common costs and expenses highlights the extent to which the computation of operating profit or loss is affected by allocations ... if allocations were prohibited, the segment information might give an unrealistic picture of the relative profitability of an enterprise's segments ...

This decision by the Board over-rules the following objections raised in the literature and noted in the Discussion Memorandum.
One of these objections would be to extend the Board's own argument; if sales less directly attributable costs, may give an unrealistic picture of relative profitability, may the operating profit not do the same in that it does not show a share of all expenses carried by the enterprise? The point noted earlier regarding the 'eliminations' column may be re-iterated: since the total of the segments contributions and profits needs adjustment to reconcile to the figures for the enterprise as a whole, and since the adjustments affecting such segment are not separately identified; can any of the segment figures give a 'realistic picture of the relative profitability of an enterprise's segments' to total profitability? The main objection to common cost allocation is expressed in the Discussion Memorandum in the following terms:

Opponents of common cost allocation generally cite the arbitrariness of cost allocation methods and the subjectivity of the resulting information. They are concerned that users of such information would ascribe to it a degree of accuracy which is unwarranted. They question whether it is possible, in many cases, to establish meaningful relationships between segment operations and total enterprise operations in order to provide a reasonable basis for allocation. (paragraph 140.)

This argument was strengthened by the finding of the field study by the FASB staff that 'common costs in some companies were not allocated to segments internally or externally' in these companies common cost allocations were not considered necessary for management purposes and were not considered meaningful for external reporting purposes. Backer and McFarland's conclusions that 'segment contribution margins constitute the most reliable and useful measures of segment profitability where there are material amounts of (common) ... cost' ([9], p.100.), and Rappaport and Lerner's recommendation 'that all common expenses be treated as corporate expenses rather than allocated to individual segments' ([66], pp. 15,16.), were both cited. The point made by Mautz that if an allocation of common or corporate expenses was done then 'the method of calculation should be clearly described' ([52], p.158.) was not incorporated in the draft standard of the FASB.

The Discussion Memorandum then reflects a consideration of the ease with which common costs may be allocated to segments. It lists Skousen's classification of objectively traceable costs, ascribable costs and generally allocatable costs ([80], p.17.) This is followed by a review
of the problem of using a single basis as against a choice from a
variety of bases by managers conversant with the particular circumstances
of the enterprise concerned. A study of empirical research by Mautz [52],
Mautz and Skousen [53], and the FASB research staff ([25], appendix D)
showed a wide variety of techniques were being used in practice.
Allocation schemes included blanket allocations of aggregates of common
costs, individual common cost allocations, and combinations of the two
approaches. The bases being used encompassed: sales or other gross
revenue, assets employed, benefits received, and net income before common
costs. Other bases mentioned included: investments, cost of sales,
time spent, space occupied, number of documents handled, hours of usage,
purchase costs, and ton-miles of transport. In Skousen's terms they
range from 'count, observation or some other physical measure' to simply
'convention or agreement'. ([80], p.17.) They may operate as a single
basis or in combinations such as the 'Massachusetts Formula' which is
the average of the sum of segment sales, physical assets and payroll.

In framing the Exposure Draft the Board has indicated no preference
for any of these approaches, none are mentioned specifically in the body
of the Exposure Draft, nor are the bases underlying the allocation of
operating costs and expenses demonstrated in the Illustration of
Financial Statements disclosed. There is no information in the Exposure
Draft to discriminate between an 'unreasonably based' allocation and
one that is 'reasonably based'.

4.3.4 Common Costs - Not allocated to Segments

The third category of costs as expenses in the Exposure Draft is the
group where a discretion to segment is given. In this area again the
rationale for the Board's decision is not stated; this includes Appendix
B which is titled 'Basis for Conclusions' and is introduced as follows:
'This Appendix discusses factors deemed significant by members of the
Board in reaching the conclusions in this Statement, including various
alternatives considered and reasons for accepting some and rejecting
others.' Paragraph 76 of that appendix simply states:

Because certain items cannot be reallocated to segments
on a reasonable basis in many situations - revenue earned
and general and administrative expenses incurred at the enterprise's central administrative office, interest expense, domestic and foreign income taxes, extraordinary items, gain or loss on discounted operations, minority interest and the cumulative effect of a change in accounting principle - the Board has not required that net income be disclosed for all reportable segments.

This means that the proportion of the net income, or loss, attributable to segments is not determinable from the required reports. A statement user may be able to estimate the proportion of the intermediate 'profit and loss contribution' or 'operating profit or loss' figures attributable to a segment, but not a share of the net income figure. (Even at these intermediate stages, the share of each segment must be estimated because the amount of adjustment to reconcile total enterprise figures with the total of the segment figures is not divided between segments.) Thus in essence the Draft provides a basis for estimating a share of 'something less than net income' figures by statement users. The Board has not justified these figures as contributing towards the objectives of the draft Standard.

Arguments concerning the propriety of dividing some of the particular items above are included in the Discussion Memorandum. Generally the views presented concern traceability and meaningfulness to the readers of the segmented reports. In simple terms, one school of thought is that division of such items is arbitrary, they are difficult to relate to individual segments and that such a division could mislead readers. The other school of thought is that despite difficulties and subjectivity these items should be allocated to the segments which comprise a total enterprise for the full benefits of segmented reporting to be realized. These views are essentially irreconcilable and this may explain the Board's 'neutral' stance with regard to these items.

One of the views expressed with regard to interest expense in the Discussion Memorandum is interesting for three reasons. The view is expressed in paragraph 164:

... it is total enterprise earning power or borrowing power that determines the extent to which capital is available to the various segments of the enterprise ... financing decisions - including determination of the appropriate balance among debt, equity and earnings retention - and capital allocation
decisions within an enterprise are usually under corporate (home office) control. Traceability of a particular debt issue to an individual segment should not enter into measurement of that segment's income.

In the first place it is a reflection of a business finance maxim: that average cost of capital is an appropriate datum for marginal project evaluation, and this point is relevant to the issue being debated. An extrapolation of this idea is dealt with later in this paper; this is that in the same way that the cost of a particular debt-issue may be related to the overall financial structure, record, and standing of the total enterprise, the cost of services other than the use of funds may be influenced by the nature of the total enterprise concerned; these same relationships may also exist on the revenue side. This 'inter-relatedness' argument is not evident elsewhere in the Board's publications on this topic. The second point is that this is one area where the distinction between a segment and a subsidiary company is emphasized in the discussion. Specific reference is made to the rights of the lenders with regard to legal entities concerning interest payments and security for the debt. This recognition of legally enforceable claims and of corresponding obligations is not to be found in the FASB literature relating to sales (debtor) and other costs (creditors). The third aspect is the ramifications of the last sentence of the paragraph; traceability, for this cost at least in one view, is not the critical factor. If this view was accepted and extended the justification for the three-tier approach selected by the FASB in its pronouncement would become untenable. No explanation of why interest expense is markedly different from other expenses is advanced.

4.3.5. Assets

Paragraph 30 of the Exposure Draft states that the following information shall be disclosed:

Identifiable assets as defined in paragraph 10f shall be disclosed for each reportable segment. If a significant portion of the assets used by a reportable segment cannot be allocated to that segment because there is no reasonable basis for doing so, that fact shall be disclosed.

There is a similarity between the Board's position on costs as expenses and costs as assets. With regard to expenses that are directly identifiable
through their incurrence, use, or otherwise, there is no option, they must be segmented. With regard to assets that are directly associable through exclusive use, or an appropriate portion, determined on a reasonable basis of the assets whose use is shared, again there is no option, they must be reported on a segmented basis. By comparison the Board foresees in the last sentence of the above requirement a situation where a large proportion of the total enterprise figure for assets may be unallocated; there was no such proviso in the case of expenses. An unexpected prohibition concerns the exclusion of central office assets from being segmented. These must not be segmented; although central office revenues and expenditures may be segmented. It appears that if funds are lodged by a segment with head office and the segment earns interest on these funds whilst they are employed by the head office, for example in the short term money market, then the revenue from the funds is attributable to the segment, but the funds on which the revenue was earned must not be attributed to that segment.

4.3.6 Reporting Requirements for Cost Categories

The following table lists the categories of cost that are used by the FASB for disclosures relating to the industry segments of an enterprise:

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Exposure Draft Requirement</th>
<th>Paragraph Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Directly Traceable Expenses</td>
<td>Match against Segment Revenue to determine Segment Profit or Loss Contribution</td>
<td>27, 10d</td>
</tr>
<tr>
<td>2. Operating Expenses</td>
<td>Allocate to Segment on Reasonable Basis. Match against Segment Profit or Loss Contribution to determine Segment Operating Profit or Loss</td>
<td>27, 10e</td>
</tr>
<tr>
<td>3. Other Expenses including:</td>
<td>Optional. May be allocated to segments to be matched against Operating Profit or Loss to determine Segment Net Income or Loss</td>
<td>28, 10d, 10e</td>
</tr>
<tr>
<td>central office expense (and revenue) interest taxes loss on discontinued operations (and gains) extraordinary items changes in accounting principles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost Category</td>
<td>Exposure Draft Requirement</td>
<td>Paragraph Reference</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Identifiable Assets</td>
<td>Allocate to Segments</td>
<td>30, 10f</td>
</tr>
<tr>
<td>Directly Associable through</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Exclusive Use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Shared Use-allocated on a reasonable basis</td>
<td>Additional Disclosures 'may be important' regarding</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) property, plant, capital expenditures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) receivables and inventories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) loans, deposits, monetary items</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) research and development costs</td>
</tr>
<tr>
<td>2. Central Office:</td>
<td>Must not be allocated to</td>
<td>10f</td>
</tr>
<tr>
<td>cash, securities and other assets</td>
<td>Segments</td>
<td></td>
</tr>
<tr>
<td>3. Other Assets used by a Segment but not 'Identifiable Assets'</td>
<td>If a 'significant portion' of total assets used by a segment this fact must be disclosed</td>
<td>30</td>
</tr>
<tr>
<td>4. Common Stock (equity method) Investments and Long term advances to other segments</td>
<td>If income included in Segment Profit or Loss Contribution - must be allocated. If income not so included - must not be allocated.</td>
<td>10f</td>
</tr>
</tbody>
</table>

The above table conveys the broad approach suggested by the Board; there are however specific details which are not shown, for example, the constraint that common stock may not be shown in a segment's assets unless the investee enterprise is itself in the same industry grouping. It is apparent from an examination of the table that a heavy reliance on subjective evaluation in this area of costs is necessary to achieve the production of reports in accordance with the draft standard. For example: allocation of operating expenses is undertaken on any 'reasonable basis'; a 'reasonable basis' (although not necessarily the same one) is also used to allocate shared-use assets; there is the requirement to disclose the fact that a 'significant portion' of total assets used have not been attributed to segments; paragraph 31 states some additional disclosures.
'may be important' this is not a requirement *per se*, notwithstanding this, 'importance' is another subjective evaluation; also the fundamental divisions of directly traceable expenses and directly associable assets required by the draft being undefined leave considerable scope for varying individual interpretations. Paragraph 76 indicates the position of the Board regarding the lack of specificity in the Draft:

... those responsible for preparing an enterprise's financial statements are in a position to make more informed allocations than are financial statement users and ... a knowledgeable financial statement user recognizes the limitations inherent in every type of allocation.

4.3.7 Claims against Assets

One of the significant differences between the Exposure Draft and the Discussion Memorandum concerns the reporting of liabilities and the net equity of proprietors in a segment. The Discussion Memorandum concentrates on the problem of the allocation of assets to segments, however, there is specific reference to liabilities and to ownership equities in this document.

Also, some persons contend that evaluation of the financial condition of individual segments is necessary for the evaluation of the financial condition of the enterprise as a whole. They point out that a consolidated balance sheet may conceal important information about the liquidity of a particular segment or, perhaps, even its ability to continue as a 'going concern'. (paragraph 197.)

The Discussion Memorandum includes the results of the FASB staff survey of thirty companies: twenty-two respondents thought the preparation of segment balance sheets was not feasible due to allocation problems, six of the remaining eight considered that, even if they could prepare such balance sheets, they should not be published. Paragraph 208 makes an incidental reference to liabilities.

Some persons propose that a measure of segment 'returns on investment' (defined in various ways) be reported as an alternative to reporting segment balance sheet information. However, because return on investment is some measure of segment income divided by some measure of investment in the segment, this approach does not avoid the problem of allocating assets and perhaps, liabilities to segments.
Similarly, in the consideration given to the presentation of a segmented statement of changes in financial position statement there is mention of liabilities and capital investments. There is no reference to the possibility of segmenting the claims against the assets of the segments of an enterprise in the Exposure Draft. Conversely, there is no statement that such segmentation should not be attempted in the Draft itself. In Appendix B, 'Basis for Conclusions', the only statement made with regard to components and changes in financial position is the terse last sentence of paragraph 76: 'Disclosure of identifiable assets is required to allow financial statement users to assess the relative investment commitment in an enterprise's various segments'.

From the documentation of the FASB it is not possible to determine the reason why the Board believes assets may be segmented and liabilities and equities may not. It is noted that the Exposure Draft, 'Financial Reporting for Segments of a Business Enterprise', was at September 30, 1975 the first to contain a justification by the Board for its choice in selecting between alternatives. In the area of assets and equities it does not in fact provide a basis for its decisions. It is also noted that by specifying that at least some assets should be attributed to industry segments, as defined by managers of an enterprise, and tacitly accepting that claims against those assets may be segmented and voluntarily disclosed, the Financial Accounting Standards Board is adopting a position directly contrary to its predecessor body the Accounting Principles Board. The opinion of that body in 1968 was as follows:

The requirement to report assets by segments creates problems of sufficient magnitude for the Board to question its soundness. These problems are directly related to the segment definitions. Often allocation of working capital is arbitrary and subject to frequent and significant change. In the diversified company the various segments may have been acquired at various times and in different circumstances. As a result, the book values, even if allocated by segments, would not necessarily provide investors (with) a sound basis for evaluating profitability of investment or efficiency of management's use of resources. ([8], p. 14.)
4.4 Appraisal of Segment Performance

If segmented data are prepared, the objective usually stated is to provide statement users with a basis for evaluation of segment performance. A number of writers have discussed this aspect of the allocation problem in some detail. The utility of segmented data for evaluation is often considered from the point of view of the manager. For example, Shillinglaw states:

At the corporate level, total company profits can be related to the amount of funds invested in the business in the form of a return on investment ratio. Management would like to apply this same concept to various segments of the company to identify the areas in which their investment decisions have been most productive ... for this purpose historical division profit date are clearly inapplicable. ([74], p.24.)

The FASB Exposure Draft is framed to achieve this same purpose for interested parties outside the enterprise, rather than for its internal management. The Exposure Draft does not explicitly state that any particular approach to appraisal of performance is the ultimate use to which a statement user can put the segmented data presented in accordance with the recommendations. Paragraph 5 contains the expression 'better appraisal of the enterprise's past performance and future risks and prospects'. Paragraphs 59 to 63, which are the bases for the Board's conclusions, include terms such as 'evaluation of risk and return', 'return is defined as expected cash flows', 'conditions trends and ratios', 'rates of profitability, degrees and types of risk, and opportunities for growth', and 'rates of return'. The precise details of what techniques are appropriate for analysis of segmented financial data are not spelt out. As a consequence the suitability of the data for their end purpose cannot be determined.

It is surprising that the Board in its pronouncement has not provided a rebuttal of arguments such as those expressed by Shillinglaw who comments on divisional data for internal evaluation as follows:

At the outset, we must recognize that the absolute level of divisional profit and, therefore, of return on investment can never be determined ... One of the most serious objections that has been levelled at the entire concept of the profit evaluation of managerial performance is that the divisional
profit figures are capable of substantial short-period juggling of the time-shiftable costs. ([74], pp.29,30.)

These reservations are shared by other writers including Henderson and Dearden, their views are concisely stated:

ROI (return on investment) fails ... because it uses profit centers which cannot really be profit centers, transfer prices which are not really prices and investment bases which are not in fact relevant. ([35], p.144.)

The authors generally advocate that a comprehensive system of fixed and flexible budgets involving high levels of managerial involvement provides superior base figures for judging managerial performance.

It is difficult to find support in the literature for calculating segmented data for evaluating performance and making decisions even by managers of an enterprise who may be deemed to have greater familiarity with both the operations of a firm and with the methods used to derive the figures. It is argued in the National Association of Accountants' Research Report Number Thirty-Five, 'Return on Capital as a Guide to Managerial Decisions', that:

Most companies compute return on capital by segments of the business (divisions, plants, product line, etc.) as well as for the company as a whole ... Capital usually means assets employed when a rate of return is determined for segments of a company even when the overall rate of return for the company is based on equity. ([58], p.24.)

This appears to favour the derivation of the data required by the FASB Exposure Draft. The Report similarly provides a justification for the Board in not requiring the allocation of some other financial elements of an enterprise.

While problems arise in allocating assets to segments, they are much less difficult than those involved in allocating debt and shareholders' equity. ([58], p.25.)

However, the National Association of Accountants' Report cannot be said to provide unqualified support for the approach to evaluation that is apparent in the FASB's recommendation. The Report in considering the utility of segmented return on investment for management appraisals contains the following reservation:

When performance of management in charge of segments is
measured by return on capital, it may be expected that opinions with regard to allocation bases will be influenced by interests of the individuals concerned and that the interest of different individuals will conflict. ([58], p.30.)

Two points are pertinent with regard to allocation of financial elements and evaluation of segment performance. The first is that both at the total enterprise and the divisional levels for assessments by the internal managers of a firm there is a considerable body of opinion expressing doubt regarding the practicality of calculating and using return on investment and similar techniques. The second point is that whilst the Exposure Draft recommends the provision of data necessary to undertake such assessments by parties external to the enterprise, there is no direct statement that this was an objective of the exercise. The only explicit comment is the oblique last sentence of paragraph 76.

Disclosure of identifiable assets is required to allow financial statement users to assess the relative investment commitment in an enterprise's various segments.

The Discussion Memorandum contains a passing reference to return on investment calculations but it is only to point out that none of the problems associated with the components of the calculations are obviated by its use.

Some persons propose that a measure of segment 'return on investment' (defined in various ways) be reported as an alternative to reporting segment balance sheet information. However, because return on investment is some measure of segment income divided by some measure of investment in the segment, this approach does not avoid the problem of allocating assets and, perhaps, liabilities to segments.

In summary, the FASB documentation is ambivalent with regard to the utility of the segmented data to be provided as an input for particular methods of appraising performance. Notwithstanding the reservations expressed in the literature on the propriety of the techniques themselves, the FASB recognizes that the difficulties in allocating costs and other financial elements to segments, must be resolved as a pre-requisite to use of such calculations for sub-enterprise units.
4.5 Review

The requirement to allocate costs to segments represents an extension of a broad problem in accounting. Allocations of costs between expenses of a period and assets at the end of a period, and costs that are chargeable to production processes and those that are not so chargeable, are other examples where difficulties have been encountered and controversy has arisen concerning appropriate approaches. Thomas [88] [90] investigated this broad problem and concluded that present allocation practices were a result of a variety of 'rule of thumb' approaches and that there was no allocation theory applicable to accounting whereby any one outcome could be judged as uniquely defensible. Allocations between segments fall into this same category, and the FASB proposals do not contain provisions which effectively restrict the arbitrariness (that is, the scope for manipulation) of the allocated costs.

Upon examination the FASB proposals to segment various categories of costs are not satisfactory. The categories are not unequivocally defined, nor are the 'rules' for allocation of shares of costs in particular categories ascertainable and applicable in practice without resort to the subjective evaluations of those individuals responsible for the preparation of the financial statements. No explanation is given why assets may be divided between segments for use in appraising segments performance, yet the claims against assets that, in some cases, may be divided on the same basis as the assets are not as appropriate in such an appraisal. The draft statement is an inconsistent compromise and it fails to provide a compelling rationale for the rules it advocates for the disclosure of costs for segments of an enterprise. Users of the segmented statements cannot place reliance upon the result figures at any of the three levels suggested in the Exposure Draft. Because of varying opinions in the literature, the diversity of currently condoned methods of allocation, and the ambivalence and superficiality of available 'rules' for practice (such as those of the FASB), a reader of segmented statements can only be uncertain as to what data he should receive, and uncertain as to the derivation of any figures he does receive.
CHAPTER 5
DEFINITION OF SEGMENTS

5.1 The Problem of Diversity

Conflicting usage and lack of precision in the definition of both the sub-units, the 'segments', and of the total unit, the 'enterprise', are apparent in the literature on segmented reporting. Backer and McFarland provide a definition of a segment which is very general in its nature and which incorporates a presumption that segmented reporting is, or can be, undertaken: 'The word segment is used in this report to designate any reporting entity which is a subdivision of a larger business.' ([9], p.17.) These authors suggest a reason for difficulties in defining more precisely the notion of reportable segments:

Inability to resolve the question of for what segments to report is traceable to failure to first establish clearly the uses which investors and creditors would make of segment financial data. Once these users are known, generalizations can be drawn with respect to characteristics of segments which will be relevant to report users' purposes. These generalizations can then serve as guides in selecting the segments of each business for which reports will be useful to investors and creditors. ([9], p.17.)

What may be considered surprising is that Backer and McFarland do not countenance the proposition that if the uses which investors and creditors (and perhaps others) make of financial data were clearly established, they may preclude the preparation of segmented data in any form for external users.

5.2 Legal Entities

The term 'enterprise' or 'company' is generally used with regard to the aggregated unit of which the 'segments' or 'divisions' are a part. Reference to unincorporated business ventures and to groups of companies is not excluded from the first term although it would appear to be so from the second. In some instances the term 'company' is intended to refer to a holding company and its subsidiaries and even to 'associated' companies if equity accounting is being practised.
Most writers it appears have a notion of the accounting entity, both before aggregation through consolidations and before disaggregation through segmentations, that relates to the recognition afforded by law. The fact that companies associated through ownership and/or control may, or may be required to, report 'group' results does not obscure the separate legal existence of each company. Similarly, that companies may choose to, or perhaps in future be required to, report 'segment' results does not alter the relationships that exist between the legal entity and all other parties. It is the financial aspects of such legally recognised relationships that form the basis for the information to be conveyed in accounting reports.

The propriety of the practice of consolidating the accounting reports of individual companies into 'group' reports and of equity accounting are not at issue in this paper. However, this question is of relevance if the enterprise for which segmentation is urged is a group of companies. The problems of segmented reporting are not diminished by consolidations. If the basis employed for aggregation and subsequent disaggregation differ, as is usually the case, the data published may be regarded as twice removed from the original data which represents the financial aspects of relationships recognised at law. Paragraph seven of the FASB Exposure Draft introduces an interesting 'about-face' where 'group' results are segmented. Parent-subsidiary or subsidiary-subsidiary company transactions, previously eliminated as part of the normal consolidation process, may be required to be reintroduced. If each of the related companies are regarded as separate segments then intercompany sales and costs are intersegment sales and costs and as such are required to be reported. The Exposure Draft also requires an identification of the types of products and the services from which revenue is derived by an investee company accounted for by the equity method. (paragraph 24.)

The coincidence, or lack of it, between 'legal' boundaries and the base and bases advocated for segmentation is considered by writers, such as Gibson, to be immaterial. The choice of criteria for division are defended on the grounds of a presumption as to user needs for factors which discriminate between those external forces which differentially
influence profit, risk and growth. Geographic area, market, product line and particularly organizational structure are regarded more highly than is the 'formal' network of legal relationships.

We do not believe that the legal distinctions between individual subsidiaries will provide any regular approach to the reporting of divisional or segment date ... This approach we would say is doomed to failure for the following reasons: (1) the improbability that the legal distinctions between subsidiaries correspond with characteristics of profitability, risk and potential for growth. (2) the ease with which subsidiaries may be either liquidated or their activities redeployed among the group (a common situation following the creation of the non-exempt proprietary company)... We consider that the organisational units of the company or group hold out more chance of success as a basis of segment reporting. Is it not possible that the elements of risk and growth will be reflected in the organisational structure of the company or group as variations in these qualities surely would lead to the need for variations in the amount and style of managerial resources allocated to a particular economic activity. ([29], p.49.)

The difficulties of crossing legal boundaries are adroitly avoided by Gibson in what he regards as a 'positive' segmented data listing requirement for the Australian Associated Stock Exchanges. He refers to 'a company and/or its subsidiaries' and later (the slightly different) 'the company and/or group' in his suggested listing requirement. ([29], p.54.)

... where a company and/or its subsidiaries are engaged in diversified activities with differing levels of profitability, risk and potential for growth, the annual report shall include a segmented statement of assets and defined profit according to the segments of the company and/or group reflecting those differences in profitability, risk and potential for growth.

Whilst it may be argued that it is not a definition per se, this listing requirement leaves many questions unanswered which would arise if this 'positive' listing rule was to be implemented. It is not clear, for example, what basis or bases should be employed to achieve segments which reflect profitability risk and potential for growth: all, or none, of geographic area, product line, market, and internal organisational grouping, may do so. Should segmentation be sought which reflects each
of the three factors separately, or is the division to be undertaken which somehow maximizes differentiation of the three reflected factors pooled together? If they are to be pooled, are they to be weighted equally or differentially? How different must the activities of an enterprise be, to be considered diversified? A wry comment by Davis concerning the characteristic of diversity is pertinent here:

But every company (or group) has some element of diversity. Be it a diversity of operations, diversity of financing, diversity in management or corporate goals. Yet not all companies, or groups of them are labelled 'diversified'. ([20], p.2.)

With Gibson's 'differing levels of profitability', how different must they be, before they are significant? Should such differences in profitability, risk and potential for growth be determined from reviewing past, current and/or future projected data? Should a basis once chosen be adhered to in order to achieve comparability, despite the fact that an alternative basis may be a better discriminator in subsequent periods? Who is to conduct the exercise of determining similarities in profitability, risk and growth? If projections are involved, how is the predicted data determined? upon what premises? and by whom? Whilst profitability may be considered from retrospective financial data, risk and potential for growth both include some subjective prediction of the probabilities of future events and in some cases the events themselves seem difficult to quantify in financial terms. Gibson's 'positive listing requirement' is nebulous. Its implementation relies on the 'whims and fancies' of those responsible for the preparation of the statements on which they themselves are to be judged.

5.3 Suggested Bases

A considerable variety of bases for segmentation have been advanced in the literature, and these include:
- Industrial Groupings,
- Graphic Location,
- Market Groupings,
- Product Similarities,
- Organisational units, and
- Legal structures
Each of these bases offers scope for differing interpretation. For example if an attempt is made to implement segmentation on an industrial grouping basis reference may be made to Bain's definition of an industry as a group of firms 'producing close substitute outputs' ([10], p.6.) this could lead to considerations of levels of cross-elasticities of demand and ultimately some arbitrary decision as to what level of cross-elasticity represents the minimum for inclusion in an industrial grouping. As a pragmatic matter it is unlikely that a practicing accountant would have either access to such data, if it were available, or the expertise and time to generate it himself.

Similarly, reference to Bain's definition of a market is unhelpful as a guide to preparing financial data. He considers a market to be a:

... closely interrelated group of sellers and buyers including all the sellers in any individual industry and all the buyers to whom they sell. On the seller side a market is co-extensive with an industry; but by including buyers it is also described in terms of the character and composition of its buyer population and the geographical area in which the buyers are situated.... ([10], p.7.)

This definition, in turn, requires a consideration of a range of further possible discriminators including: industry groups, geographic areas; administrative divisions, political, social and economic divisions; and customer groupings. Again with 'product similarities' there are at least four alternative bases of differentiation: physical appearance, production technique, raw material and sale value. Each of the bases listed above, with the exception of legal structures which is not regarded as relevant for segmentation, is capable of being widely interpreted. One avenue of limiting the variety of such interpretations is through some level of prescription by an outside body.

5.4 Approaches to Defining Segments

The production of segmented reports, employing one or more of the above bases, may result from outside detailed prescription or from management choice. Two situations may be discerned between these two extremes, one where broad principles are enunciated by an outside body and management has wide latitude with implementation, the other is where
managements' options are more constrained but not totally limited by specific requirements. The following categories are points along a continuum and do not constitute an exhaustive and mutually exclusive classification, however they provide a useful basis for a more detailed consideration of current practices.

1. Explicit Detailed Prescription
2. Prescription - Election Combination
   - Rules plus or minus managerial election
   - Guidelines for managerial elections
3. Managerial Election

5.4.1 Approaches to Definition - Outside Prescription

In the first category at one end of the range, division of enterprise data is accomplished by 'fiat'. A body superordinate to the internal management of the enterprise establishes rules whereby the decision to segment is removed from the control of those within the entity; similarly the applicable techniques are prescribed or ascertainable from sources outside the control of participants in the particular enterprise. This is the case for some firms in the United Kingdom where the Companies Act 1967 S17 (2) requires disclosure of (a) the proportions in which the turnover of that year is divided among each class of business ... and (b) As regards business of each class, the extent, or approximate extent (expressed in either case as monetary terms) to which in the opinion of the directors, the carrying on of business of that class contributed to or restricted, the profit or loss of the Company for that year before taxation. Similarly registrants with the United States' Securities and Exchange Commission must disclose segmented financial data. (Forms S1, S.7 and 10K)

If the registrant and its subsidiaries are engaged in more than one line of business, state, for each of the registrant's last five fiscal years, or for each fiscal year ending after December 31, 1966, or for each fiscal year the registrant has been engaged in business, whichever period is less, the approximate amount or percentage of (i) total sales and revenue, and (ii) income (or loss) before income taxes and extraordinary items, attributable to each line of business which during either of the last two fiscal years accounted for -
(A) ten per cent or more of the total of sales and revenues,

(B) ten per cent or more of income before income taxes and extraordinary items computed without deduction of loss resulting from operations of any line of business, or

(c) A loss which equalled or exceeded 10 per cent of the amount of income specified in (B) above; provided that if total sales and revenue did not exceed $50,000,000 during either of the last two fiscal years, the percentages specified in (A), (B) and (C) above shall be 15 per cent, instead of 10 per cent.

If it is impracticable to state the contribution to income (or loss) before income taxes and extraordinary items for any line of business, state the contribution thereof to the results of operations most closely approaching such income, together with a brief explanation of the reasons why it is not practicable to state the contribution to such income or loss."

Official instructions amplify the above requirements:

1. If the number of lines of business for which information is required exceeds ten, the registrant may, at its option, furnish the required information only for the ten lines of business deemed most important to an understanding of the business. In such event a statement to that effect shall be set forth.

2. In grouping products or services as lines of business, appropriate consideration shall be given to all relevant factors, including rates of profitability of operations, degrees of risk and opportunity of growth. The basis for grouping such products or services and any material changes between periods in such groupings shall be briefly described.

3. Where material amounts of products or services are transferred from one line of business to another the receiving and transferring lines may be considered a single line of business for the purpose of reporting the operating results thereof.

4. If the method of pricing intracompany transfer of products or services or the method of allocation of common or corporate costs materially affects the reported contribution to income of a line of business such methods and any material changes between periods in such methods and the effect thereof shall be described briefly.

5. Information regarding sales or revenues or income (or loss) from different classes of products or services in operations regulated by federal, state, municipal authorities may be limited to those classes of products
or services required by any uniform system of accounts prescribed by such authorities.

The recognised advantage attaching to this first category is its \textit{prima facie} freedom from bias. Consistency and comparability are said to be improved if stable rules are known and followed. The opportunity for 'insiders' to manipulate the date to influence 'outsiders' decision outcomes is reduced. The major disadvantage is similarly well recognised. Sufficient prescriptions and proscriptions cannot be enunciated to cover all circumstances. Rigid adherence to the rules may, in unforeseen circumstances, result in the circulation of data misleading to users or pertinent information being withheld from them. This defect is described by Backer and McFarland in the following terms: 'A characteristic of all arbitrary allocations is that they lack universality. Sooner or later circumstances arise in which allocation procedures break down and yield misleading or even absurd results'. ([9], p.23.)

5.4.2 Approaches to Definition - Managerial Choice

The third listed category is the other end of the range. Decisions of whether to present segmented information and the choice of bases to be adopted for such disclosures are devolved upon individuals exercising control of the flow of data from the enterprise\(^1\). As the major claimed advantage for this approach it is conjured that the managers are the only individuals possessing sufficient familiarity with the operations of the entity, and the effects of factors influencing such operations, to disseminate appropriate data. The views expressed in Backer and McFarland's survey support this approach:

Review of evidence from this study leads to the conclusion that no single segment classification pattern can be applied to all companies. Wide differences in company operations make it necessary to select, in each case, the segments which will be useful to investors in understanding a company's business and in forecasting the outlook for earnings in future periods. ([9], p.21.)

\(^1\) These individuals are for convenience referred to here as 'managers' although other individuals not usually so designated in an organisation, especially accountants, would be included in so far as they exercise some control on the form and content of data released.
The disadvantage associated with this approach is that the opportunity is provided for managers to seek to enhance the security of their own position through manipulation of data available to other participants. An example would be the association of expenses with an operation which is to be discontinued and which would in other circumstances be attributable to continuing segments. Report users may predict a higher level of future profits than they otherwise would have done, if these expenses had been attributed to the continuing segments, and thus the managers' own positions may be made more secure.

5.4.3 Approaches to Definition - Constrained Choice

Between the two extremes of outside prescription of managerial election is the second category where some rules or 'guidelines' exist, but within which managerial discretion may operate. Although they merge, it is possible to distinguish two sub-groupings of this second category. The first of these is where certain prescriptions are indicated and the options available to management to influence the data reported are limited in conjunction with these. The United Kingdom Stock Exchange Listing Requirement is of this type. Listed companies are obliged to:

... include in or circulate with each Annual Directors' Report and Audit Accounts or Chairman's Statement:
(1) A description of operations carried on by the company or, if the company had subsidiaries, the group.
(2) If the company or, as the case may be, the group carries on widely differing operations, a statement showing the contributions (Figures or percentages), of such respective differing operations to its trading results.
(3) If the company or, as the case may be, the group trades outside the United Kingdom, a statement showing the geographical analysis (Figures or percentages) of its trading operations.

Gibson notes that the Requirements '... do not specify the relative proportion that differing operations must have to require disclosure. Nor is any definition or guide given as to what is meant by different lines of activities.' ([29], p.43.)

A variation of this second category type is a requirement which may
be altered or even avoided in 'special' circumstances. The recommendations of the FASB may be given as an example of this category where such alteration is condoned. In paragraph 15 of the Exposure Draft it is stated that: 'The Board believes that the three-digit categories of the SIC (United States Bureau of the Budget Standard Industrial Classification) will, in many cases, serve as a meaningful reference point for delineating industries'. The Board however has ensured that ample qualifications are included in paragraphs 12 and 15. Two points need to be made in connection with this recommendation. The first is that it is by no means unanimous that the SIC is a suitable basis of segmentation. Mautz, for example urges its rejection and advocates freedom of choice in the selection of bases.

1. The Standard Industrial Classification, even at the 2-digit level, is not appropriate for the identification of diversified companies nor for establishing the divisions or segments to be reported upon.

2. No other available and authoritative system of industry classification exists which appears to be applicable to all companies.

3. For a given company, some kind of market classification based on geographical or customer distinction might well be informative to investors.

4. For some companies the legal structure might provide a satisfactory basis although for other companies this seems highly unlikely.

5. Probably the most important conclusions resulting from this analysis are that the limitations of each of the reporting bases examined here, together with their usefulness under appropriate circumstances, urges a flexible approach, perhaps even freedom for those reporting to select a basis appropriate to that specific company. Freedom, of course, carried with its commensurate responsibilities. ([52], p.43.)

This view of the SIC is supported by Backer and McFarland who argue that:

... the types of information needed are also different. The Standard Industrial Classification was designed for use in collecting certain types of economic statistics rather than for separating an individual company into segments useful for forecasting profits and understanding

1. Mautz' conclusions here are a development of his 'tentative conclusions of an earlier study on this problem. ([51], pp.58,60.)
its activities ... the extensive use of arbitrary allocations which would be required to produce net income figures for such classifications would render the data virtually meaningless in many companies. ([9], p.13.)

The second point concerning the use of the SIC classification is that some ambivalence can be inferred in regard to this recommendation. It is stated in paragraph 13 of the Exposure Draft that 'The Board believes that an enterprise's existing profit centers - the smallest units of activity for which revenue and expense information is accumulated for internal planning and control purposes - are a logical starting point for determining the enterprise's industry segments.' The possibility of conflict is removed if reference is made to the 'catch all' conclusion to paragraph 12. 'Consequently, determination of an enterprise's industry segments must depend to a considerable extent on the judgment of the management of the enterprise.' This would appear to place the FASB exposure draft in the third category of 'managerial election' and relegate the Boards recommendations to the status of 'suggestions to management'.

An example where complete avoidance is possible is S102 of the Stock Corporation Act 1944 of Sweden. It requires diversified companies (as identified) to disclose the 'income' or 'loss' of each operation 'where this is not detrimental to the corporation'. To avoid complying with this section's reporting requirement then, a subjective evaluation (by managers) needs to be made to determine whether conditions are such that segmented disclosure would be 'detrimental'.

The second sub-grouping may also be regarded as including the situation where guidelines are established to indicate the broad nature of the data required but the specific details of the data to be provided are not given. The Canadian Institute's recommendations, phrased in generalised terms, fall into this category. They advocate division along industry grouping lines, but also condone the use of alternative bases. Other suggested disclosures include segment sales, segment margins and non-allocated costs to enable reconciliation to aggregated figures and also changes in segment composition or cost allocation techniques. ([16], p.351 et seq.) The scope for diversity in the practice of segmentation under
the broad second category is considerable. The prime criticism levelled at this middle grouping is that the pervasiveness of the influence of managers remains unknown. The benefits claimed for this approach are that it can have some of the advantages which occur at either extreme of the range whilst avoiding the worst of the accompanying disadvantages.

5.5 Levels of Segmentation

Difficulties, arising from definitions, occur when implementation is attempted. The problem of the number of segments is one of these. The level at which subdivision must stop is seldom specified, yet strict reference to criteria of differing profitability risk and/or potential for growth, could lead to a proliferation of 'mini-segments' and to innumerable segments within segments. The variety of alternative bases and the extensive range of combinations and permutations possible with these alternatives compound this problem. Few authors are prepared to argue that one basis is to be preferred to another.

The FASB draft standard displays the adoption of what may be termed a 'shot-gun' approach. Four separate bases are advocated, i.e. different industries, foreign operations, major customers and export sales. Paragraphs 18 to 23 of the exposure draft provide a number of 'tests of significance' for reportable industry segments, including reference to ten per cent of revenue, ten per cent of profits or losses and ten per cent of identifiable assets. The total of separately reported segmented sales to outside entities are to be at least seventy-five per cent of the total sales by the enterprise. Provision is made for 'abnormal' circumstances in paragraph 19, and for dominant segments (90 per cent plus) in paragraph 23. In advocating compliance with these rules the Board then recognises 'the need for a practical limit to the number of industry segments'. (paragraph 22).

The degree of specificity that the Board adopted with the determination of segment sales, profit and asset parameters is not apparent in this area. Paragraph 22 of the Exposure Draft contains the suggestion '... that as a number of industry segments ... increases above ten, the question of
whether a practical limit has been reached comes increasingly into consideration ....'. Mautz has suggested that most company financial executives would prefer less than twelve segments. ([52], p.44.) The FASB by declining to define precisely the practical limit to the number of industry segments implicitly paves the way for at least some subjective managerial election with regard to the definition of segments reported.

The same arbitrariness is to be found with the three other segment bases proposed by the FASB. For example, paragraph 37 concerning segmented data about foreign operations suggests:

No single method of grouping can reflect all of the differences among international business environments, and each business enterprise shall group its foreign operations on the basis of differences that are most important in its particular circumstances. Factors to be considered in grouping foreign operations include geographic proximity, economic and political affinity and the nature and degree of interrelationship of the enterprise's operations in the various countries.

Interpretation of these factors and the assessment of the differences that are most important, for practical implementation, are functions that are apparently devolved upon management. Similarly data concerning major customers and export sales, required by paragraphs 43 and 44, rely on interpretation of 'significant dependence' and 'unaffiliated customers'.

5.6 Interrelationships between Defined Segments

It has been seen in the two preceding chapters that if transfer prices or allocations of costs between segments are required, a variety of approaches exist under which results may be determined. The extent to which these techniques are employed is dependent upon the way the segments are defined. Blair ([14], pp.606,609.) argues that while cost allocations and transfer prices are difficulties, their importance should not be exaggerated. He relies on Solomons' claims that:

Most discussion of the difficulties of segmental reporting has centered on this question of the allocation of corporate expenses without much regard to their quantitative importance. In fact they do not represent more than 5 percent of a company's expenditure ... in the majority of
diversified companies, interdivisional transfers are small in amount compared with sales to outside companies...
There are many companies in which the whole question could be forgotten without any serious distortion of the accounting results. ([82], pp.91,101.)

A number of comments need to be made with regard to Blair's arguments. The first point is that the results of segments may well not be substantially affected by cost allocations and transfer prices, however this is merely an assertion that cannot be proved. To show that results will not be materially affected even for a single company would require a knowledge of all the alternatives available under each heading, and of the consequences in the segments' results of these factors in combination. Further, the notion of 'substantial' with regard to the size of the difference in results would need to be precisely quantified.

Another difficulty is that the argument presented by Blair and Solomons is framed as though the definition of segments, and consequently their nature, size, and number, was an invariant factor. If the definition of a segment is recognized as being an additional variable, a further dimension is added to the problem. The fact that cost allocations and transfer prices are not the only interrelationships between segments which may influence reported results has been overlooked. This aspect is developed below. However, considering the lack of constraints operating in each of the three areas of: segment definition, cost allocations, and transfer prices, under both a system of voluntary disclosure and under the rules proposed by the FASB, Blair and Solomons' argument, that the effects on the results reported by segments is not significant, cannot be supported.

Although cost allocations and transfer prices are problems that are well recognized in the literature as resulting from defining segments which are not entirely isolated from each other, there are a number of less obvious relationships which may also connect segments. Careful choice of criteria for determining segments may limit the extent of these relationships, however the fact that the units are components of an enterprise means that some relationships exist which do not occur between unrelated enterprises in the economy. These links in some instances may be quite subtle; they may be indiscernable to many people
who are not fully conversant with the detailed operations of an enterprise and its segments. Unlike cost allocations and transfer prices, the existence of these relationships is not indicated to external users of accounts presented in accordance with the recommendations of the Financial Accounting Standards Board.

These relationships can be found in both the revenue and cost areas of the operations of segments. Sales in one segment may be influenced by sales in another segment in various ways. An example of such a relationship would be with the sale of consumable items related to sales of durables; this would include camera sales and the sales of film and the provision of processing services, computer equipment and associated software, and car sales and fuel sales. A similar situation exists with the sale of original equipment and spare part, accessory and servicing revenue. A further category would be sales influenced by brand loyalties; if for example Brand X sewing machines have been sold by one segment for a number of years, Brand X television receivers may be introduced by another segment onto a partially established market.

In some cases the brand name may not have to be the same for sales by one division to be influenced by sales of another. The fact that 'Frigidaire' refrigerators and 'Holden' motor vehicles are both produced by a large long-established company may be well known to customers for both products. 'Corporate image' advertising aims to strengthen such associations in the minds of potential consumers. These relationships will not always be favourable however. A potential customer may be lost to one branch of a store because he had previously experienced poor service at another branch. Fewer television receivers may be sold under Brand X than would have been sold under a new brand name because Brand X sewing machines had not found favour with television set buyers or because customers consider that expertise in the production of one product may preclude expertise in another. Customers may be lost to segments of large or transnational companies simply because some individuals have an aversion to dealing with large or transnational companies.

On the cost side the same kinds of relationships can exist. A supplier may quote a lower price, or offer better trading terms, to one
segment in the hope that he may make further sales to other segments at a later time. The size and stability of the total enterprise may influence the price charged for goods and services to a particular segment because of a presumed lower bad debt risk in dealing with a collection of segments. This factor would apply where a segment was an entity seeking funds from the capital market. Labour costs are another example; employees may consider that employment in a multi-segment enterprise provides more career opportunities and greater security and they may be willing to accept lower wage payments. Again there can be negative factors operating in the cost area. Suppliers may charge higher prices because payments are handled according to a standardised procedure which can cause delays in receipt by the supplier. Creative and artistic individuals may be disinclined to work for large enterprises and higher levels of remuneration may have to be offered. The net financial effect of these numerous cost and revenue factors is indeterminate. Irrespective of the approach taken to defining segments, the general problem of having some form of interdependent relationships between segments is unavoidable.

5.7 Review

Argument concerning the definition of segments may be summarised as follows. In the literature, definitions of segments make reference to factors which transcend the legal structure of an enterprise. Upon analysis each of the factors suggested relies upon subjective interpretation. The decision to present segmented data and the choice of bases to be adopted may be determined by a variety of alternatives ranging from the extremes of prescription by outside authority to internal managerial inclination. The exercise of subjective judgment in many instances is viewed by authors as being necessary. Not only is there a choice to be exercised with regard to the definitional approach, there is the related problem of the number of segments to be reported.

The point that, the problems encountered through varying definitions are not generally significant, was found to lack support. It was shown that some cases of intersegment dependence were not readily apparent, and that the existence and likely effects on the reported results of these
and the more commonly recognised relationships, such as common costs and transferred resources, could not be discerned by statement users. A variety of acceptable methods of defining segments are allowed in the FASB Exposure Draft; consequently a number of alternative results may be reported to the users of segmented statements. These users cannot discover the extent to which interrelationships between segments are either ignored or resolved by arbitrary fiat. They cannot ascertain whether the data they receive is neutral or designed to influence their decision-making towards a particular outcome favourable to those responsible for the preparation of the statements.
CHAPTER 6
THE AUDIT OF SEGMENTED STATEMENTS

6.1 FASB Requirements

The word audit does not appear in the FASB Exposure Draft. It is curious that no reference is made to the attest function in relation to segmented statements of business enterprises, considering that this aspect was raised in the Discussion Memorandum and that it was the subject of direct comment in submissions to the public hearing. The Exposure Draft includes three methods of disclosing the segmented data in the financial statements of an enterprise. These are listed in paragraph 32:

a) Within the body of the financial statements with appropriate explanatory disclosures in the notes to the financial statements.

b) Entirely in the notes to the financial statements.

c) In a separate schedule that is included as an integral part of the financial statements...

The clear intention of the FASB is that segmented statements be made prominent and that they be read as part of the annual accounts. It would seem from this emphasis to be a reasonable presumption that the Board's intention is that segmented data should fall within the ambit of the auditor's certificate.

The treatment of audit in the Discussion Memorandum is not extensive. Under Question 1.3, 'What are the implications for business enterprises if segment reporting were required?' the following extract from Schwartz ([73], p.546.) relating to legal implications was found:

Serious burdens and risks exist under present law and practice, but from a legal standpoint neither those risks nor burdens would be appreciably increased by a requirement of product line reporting. Thus, the potential liability of corporations or auditors is not a persuasive argument against new requirements for financial reporting. (par.50.)

Further mention of audit appears in appendices to the Discussion Memorandum.
Appendix B of the FASB Discussion Memorandum provides a selected coverage of officially sponsored literature. In this appendix conclusions reached in an analysis of segmented reporting by the Accountants International Study Group ([2], pars. 86, 87.) are cited:

Financial statements of diversified companies should include information on separate segments, and that information should be examined and reported upon by independent auditors. (paragraph 86)

Consideration should be given by the participating Institutes to issuing technical pronouncements on the problems of examining and reporting on segmented information to facilitate reporting by independent auditors. (paragraph 87)

([26], p. 70.)

Although not noted in the Discussion Memorandum the Study Group express some reservations concerning the abilities of auditors with respect to segmented reports:

... Auditors are experienced in dealing with questions of allocation, intra company transactions, adequacy of disclosures, and other matters relevant to reporting for diversified companies. Although their techniques have not generally been applied to segment reporting, they are readily adaptable to that purpose. ([2], par. 79)

Less obvious, however, is whether the experience of independent auditors qualifies them to decide when a diversified company has been divided into homogeneous segments. That capability is critical because relying solely on management decisions on the matter could limit the credibility and usefulness of the resulting information. ([2], par. 80)

The Accountants International Study Group also noted that auditors in the United Kingdom generally had not reported on segmented data, whereas auditors were required to do so in Canada and had done so voluntarily in the United States.

Appendix C of the FASB Discussion Memorandum is a summary of the field interview research conducted by the Board's Task Force. Thirty companies using segmented reports for internal managerial purposes were surveyed. The results of questions concerning management's view on the desirability of independent auditors' certification of segment data are shown in this appendix to the Discussion Memorandum. Eighteen of the thirty companies stated that audit attestation would be undesirable. Six companies were currently reporting segmented data that was included in the scope of their auditors' reports. The FASB literature simply does not provide a clear-cut answer to the question of whether segmented statements should be audited.
6.2 Audit Considerations in the Literature

A review of the literature also shows a dearth of material concerning the audit aspect. In 1968 Zeff, commenting upon a memorandum from the three principal accounting bodies of the United Kingdom to the Board of Trade, affirmed that the audit function should be applied to segmented statements. He agreed at that time with the view expressed by the British accounting bodies that 'the information called for is accounting information which may itself be highly relevant to the presentation of a true and fair view of the results of the year'. ([99], p.26.) In Zeff's view the segmented disclosures should not be consigned to 'the uncertain class of supplementary information'. Moreover he considered that the challenges offered by interpretation, allocation and presentation, were not dissimilar from those that already arose in the drawing up of year-end financial statements. 'Thus, (the voluntary disclosures recommended by the APB) should be covered by the auditors' opinion.' ([99], p.26.)

Question 21 of the Investor Questionnaire used by Mautz [52] in the Financial Executives Institute study was as follows:

In your judgment; would audit by an independent accountant, including expression of his opinion, add satisfactory objectivity to segment reports of conglomerate companies with respect to
Common cost allocations?
Use of intracompany pricing?
Definition of segments for reporting purposes?

The responses of investors and Certified Financial Analysts were markedly in favour of audit for the purpose of adding 'satisfactory objectivity' in each of these areas. (The detailed analysis of responses is shown under table 1 in Appendix C). In summary, the overall positive responses to the three areas were 83, 74 and 78 per cent respectively. The questions in the Mautz survey do not explicitly ask whether segmented reports should be audited; but it is apparent that the majority of investors and analysts surveyed would answer that more general question affirmatively.

1. Zeff later reaffirmed this stance in his written submission to the FASB public hearing on the issue of segmented reporting. ([26], Pt.1, Submission 2).
The term 'satisfactory objectivity' used in relation to the questions asked should be interpreted as meaning 'likely to be considered by a majority of unprejudiced individuals as fair and reasonable to them in the circumstances' rather than as 'subject to verification by reference to observable phenomena in the real world'. This view of the auditor's role is evident in Mautz' comment:

The chief argument in favor of requiring the opinion of an independent auditor on disclosures of the kind proposed in the recommendations is that this provides a reader with some independent assurance of the propriety of the segmentation and of the reported data. Implicit in such an argument is the existence of standards against which the independent auditor can test the disclosures of the company under examination. The extent of latitude for management discretion required by the nature of the subject, and provided for in the recommendations, is such that the appearance of satisfactory standards does not appear imminent. ([52], p.142.)

A more recent Australian study by Mirza [56] analyses the responses of twenty-three public accounting firms to a questionnaire. The questions asked included an assessment of the desirability of additional segmented disclosure, the utility of such statements to shareholders and investors, the extent to which such statements should be subject to audit, and the nature of the problems expected to be encountered in an audit. Tables 2 to 5 of Appendix C show the collated responses to each of these areas of enquiry. Mirza's general conclusions from his limited investigation were that:
- public accountants are mildly in favour of presentation of segmental information in published company reports.
- a majority of the auditors feel that investors and shareholders would be able to make better decisions on the basis of segment disclosure.
- a significant majority indicate that they would be willing to undertake such examination up to the contribution margin level of the profit reports.
- over half the respondents did not favour the proposal of auditing segment information such as segment net profit, segmented balance sheet and fund statement.
- none of the problems expected to be encountered in the audit of segmental information is insurmountable.
Two other aspects of the study by Mirza are of interest. The first of these is that twenty-one of the responding twenty-three public accountants agreed that it would be necessary to include a requirement in the Companies Acts in order to obtain segmental disclosure from all diversified companies. The second is that twenty-one of the twenty-three did not consider that the lack of auditing standards was a possible problem in the audit of statements of segments of an enterprise. This majority opinion is in marked contrast to that found in the Mautz study.

6.3 Analysis of Submissions to FASB Public Hearing

The major difficulty with an examination of the submissions to the FASB public hearing is that no specific question was directed to the problem of audit. Zeff drew attention to this omission in his submission to the FASB public hearing ([26], Pt.1, Submission 2.), in which he commented on the reference in the Discussion Memorandum to an article in which he had mentioned this aspect. To derive some guide to the attitudes of respondents it was necessary to examine each submission in detail. Most responses which indicated a view on the audit question were to Question 1.4 of the Discussion Memorandum: 'To what extent is segment information objectively verifiable?' or in connection with Issue Eight: 'How should segment information be presented?'. Because of the indirectness of responses to the question of whether segmented financial statements should be audited, only three categories of response were used.

If Segmented Information is Included in Financial Statements it Should be Subject to Independent Audit

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Approximately half of the respondents made no comments that could be interpreted as either supporting or opposing the audit of segmented financial statements. Of the remaining half, opinion was evenly divided with a slightly larger number was in favour of some audit scrutiny of the statements than was opposed to this action. Considerable caution needs to be exercised with regard to the interpretation of these statistics. Although a fairly high correlation was observable between attitudes to Issue One: 'Should information about segments of a business enterprise
be included in financial statements?' and the attitudes to the audit question, it must be borne in mind that attitudes gleaned from responses to Issue Eight: 'How should segment information be presented?' were to be answered as if responses to Issue One had been affirmative.

Some of the individual responses indicated surprise that there was no direct question concerning audit. Another interesting aspect was that some of the large firms of certified public accountants, who prepared quite detailed submissions, did not make direct comment on the audit function. Many responses indicated that the audit function would differ from that necessary for aggregated figures. Of those thirty-four respondents whose attitudes were not favourable to the audit of segmented data most gave one, or both, of the following reasons. Increased audit costs were envisaged, and many respondents considered this unnecessary compared with the benefits to be gained. The second reason given was that the auditors would not have sufficient detailed knowledge to validate decisions with regard to definition and choice of segments, transfer prices and cost allocations, although given these guidelines used by management they could then 'check the arithmetic' of the data provided.

The respondents favouring audit indicated that they considered that the audit primarily was to be an independent opinion that the data reported was in accordance with the guidelines to be provided by accounting standards. Most of these respondents showed awareness that the exercise of judgement by management was unavoidable, however they considered that auditors guided by broad professional experience and ethics and some specific recommendations would be in a position to provide some constraint on the publication of segmented figures that were grossly 'unreasonable', 'unfair' or 'misleading'.

It is not possible to reach any conclusions regarding the views of respondents on the feasibility or desirability of extending the audit function to segmented data in financial statements from the submissions to the FASB public hearing. The FASB has given little attention to this controversial issue in its deliberations, and it has avoided making any statement in the subsequent Exposure Draft. This can be regarded as a
curious omission when the results of the Canadian Institute of Chartered Accountants' Accounting and Auditing Research Committee's survey of responses to an exposure draft in that country included the following observation.

(e) Coverage by auditors' report. This provision attracted more comment than any issue apart from competitive disadvantage, with strong arguments being advanced both for and against inclusion as part of the statements. ([57], p.360.)

Some brief comments need to be made concerning the usefulness of data from surveys. The design and implementation of a questionnaire-based survey to obtain meaningful and unbiased responses are extremely difficult tasks. There are the problems of non-respondents, sample size and selection techniques to overcome if a sample is to be considered as representing a wider field or population. In addition to the above factors which affect reliability, there is the over-riding concern of validity. This is of particular concern in accounting. There is a gap, for example, between the statement of an opinion as to whether segmented accounts would produce problems for auditors and whether or not such problems would occur. This gap may be markedly affected by the use of ambiguous wording such as 'serious problems'.

Any credence given to the results of 'opinionnaires' derives from a knowledge of the attributes of the individual respondents; this is generally lost with the anonymity of published results. Even with questions of fact, responses to questionnaires can give results widely varying from actual occurrences. Responses may be coloured by respondents wishing to be seen to conform to more 'socially acceptable' patterns of behaviour. Finally there is the point that a knowledge of past practices and presently held opinions will not assist in determining the most theoretically sound answers to accounting problems. The only benefit that accrues from the possession of such knowledge is that of the extent of change necessary if particular outcomes to problems were to be adopted. Even this benefit is dubious unless outcomes to basic accounting problems are concurrently being determined. The surveys themselves cannot assist in the resolution of those problems.
6.4 Review

A statement by the Commissioner for Corporate Affairs for New South Wales is fitting as a concluding remark to this chapter; additionally it has application to the earlier chapters of this paper:

This discussion of segment disclosure has raised a lot of questions most of which have been left unanswered. A further question, again unanswered, relates to the extent to which the information provided in respect of segments of a business should be audited. ([70], p.55.)

The conclusions that are drawn from the narrow range of material that is available on the question of audit are ambivalent. There appears to be some agreement with the view that if segmented reporting is either required or desirable then some involvement by auditors would be beneficial. Similarly, it is generally appreciated that the preparation of segmented reports requires the exercise of subjective evaluations. In a situation where there is either a lack of rules or there are rules which, perhaps of necessity, involve flexibility in their interpretation and/or application, then the choice between alternatives must be made. In the first instance this choice will be exercised by the managers of the enterprise. It is at this point that opinion becomes divided.

One view is that an audit is ideally an attestation of facts. In practice this may be amended to encompass an opinion that the data presented are in accord with either written standards (principles) or with generally accepted accounting practice. In the case of segmented reports for external parties there is no conventional practice to act as a norm and it is doubted that universally applicable rules can be sufficiently described to serve as promulgated standards for assessing the reasonability or fairness of the elections made in preparing the segmented statements. From this point of view it is argued that the traditional role of the auditor cannot be fulfilled with regard to segmented reports. The opposing view is that the audit function is essentially no more than a statement of opinion. It constitutes a second opinion on the accounts by an impartial 'higher' authority. It is argued that this opinion is formulated not only with regard to regulatory requirements, but is derived from a respected code of professional ethics. Moreover, it is contended that accounting practice is to a significant extent a matter of subjective
judgment and this is evidenced by the variety of procedures which are currently widely accepted. Thus, from this point of view, the extension of audit responsibilities to segmental data is no more onerous and essentially no different from the present audit role.

Unlike the 'true and fair' component of the statement required of auditors of Australian companies the U.S. audit report does not contain any reference to verity. It is a report of opinion as to fairness of the results presented in conformity with generally accepted accounting principles (The U.S. short-form audit report is reproduced as exhibit 6 in Appendix C). Both the U.S. and Australian auditors' reports contain the word 'fair'. There is a difficulty with this word in that it is not an absolute term. An appraisal of 'fairness' is a subjective individual operation. Thus the use of the term in an audit statement has traditionally meant that the auditors have formed the opinion that no interested individual has been deliberately deluded or disadvantaged by other individuals who choose the methods by which the accounts are compiled. This is necessarily a matter of surmise on the auditor's part, but at least the word 'fair' is traditionally understood to convey nothing more than a subjective statement of opinion.

At the present time there are no generally accepted auditing standards and accounting principles for segmented reporting to conform to in the United States or Australia and there appears to be no obstacle to auditors stating an opinion as to 'fairness'. (Using that word in the conventional sense.) However, the difficulty with the Australian wording of 'true' would persist. It may be argued that this difficulty has not precluded auditors from issuing unqualified reports on statements involving subjective judgments in many other areas; or that the term 'true' when used in 'true and fair' has a technical meaning that differs from its everyday usage. The crux of the matter is that some aspects of presently prepared financial reports cannot be described as either truthful or untruthful. It is paradoxical that the attention of the profession has been directed towards offering substitute 'technical' definitions of truth rather than seeking to develop financial statements that can be judged as to their verity.
If attention was to be focused on truthfulness, then the auditor's role could be seen to be one involving the evaluation of evidence. Facts obtained from the contemporary real-world could be matched against details reported in the accounts and an independent opinion expressed. Such an approach would avoid, to a large extent, the internal 'paperwork', books of account, and accounting procedures developed within the enterprise. The exercise of judgement by auditors would not be precluded; in fact this quasi-judicial role would be more onerous in many regards than their presently perceived duties. No reliance could be placed upon conventional practice, whether or not this is codified in accounting standards. Reflections of opinion in the accounts, including figures based on past or possible future events and courses of action, would need to be replaced by statements of present-day realities. These requirements would necessitate a dramatic recasting of the accounting function as presently generally practised.

If the accounting profession directed attention towards the fundamental aspects of evidence and contemporary factuality then the role of the auditor could be more clearly defined. The ambivalence of surveys of opinion on specific questions such as segmented reporting would be immaterial; such surveys would be redundant. Establishing opinions, gaining a consensus of ideas on accounting practices, and promulgating standards for accounting procedures would all be superfluous activities. They would be replaced by the single test of: 'Does the action proposed, or taken, lead to the production of a truthful accounting report?'. Using this approach it is apparent that because of transfer prices, cost allocations, problems in definitions and a variety of possible inter-connections, reports for segments of business enterprises could not be attested by auditors as being true. There is no contemporary real-world fact which can act as evidence as to the truth of a transfer price, nor is there for a cost allocation, nor is there for the definition of many segments. Using the frame of reference of 'truth' segmented financial statements, at least in Australia, should not receive an unqualified auditor's report.
CHAPTER 7
SEARCH FOR AN ACCOUNTING FRAMEWORK

7.1 The Need for Objectives

Each of the preceding five chapters has analysed specific problems associated with the preparation of financial reports for segments of business enterprises. In this chapter attention is shifted to a more general plane. The purpose here is to ascertain the general theoretical constructs from which the notion of segmented reporting has been derived, or from which this style of reporting gains support. The preparation of segmented reports may be viewed as a specific application of a general theory of accounting, that is, the disclosure of additional detail is regarded as an extension, or enhancement, of the broad accounting function. Indeed, reporting for sub-enterprise units may be seen as one means, or even the only means, by which the general objectives of accounting may be secured. Alternatively segmented reporting may be considered as a separate unrelated activity, completely divorced from the mainstream of accounting theory and practice, intended to serve quite different functions.

Prior to this chapter a variety of difficulties of practical implementation have been examined. The seriousness of these difficulties can only be evaluated in terms of the obstacles they present to the attainment of objectives. The objectives may be rendered unobtainable, partially obtainable or obtainable with a degree of error, or be unaffected by these difficulties. Another related aspect is that to obtain the benefits that the objectives represent, the costs incurred may be regarded as prohibitive. Each of these evaluations depends on a knowledge of the objectives sought through the disclosure of segmented results.

The search for a basic framework of accounting in this paper begins with an examination of the literature developed and employed by the FASB in its deliberations on the specific issue of segmented reporting.
This search is extended to the American Institute of Certified Public Accountants' Accounting Principles Board statement Number Four 'Basic Concepts and Accounting Principles Underlying Statements of Business Enterprises' and the American Accounting Association's 'A Statement of Basic Accounting Theory', being two of the most recent general theoretical publications of the American profession. Two further avenues are explored in this chapter. The first is a testing of the contents of the recommended segmented reports against qualitative criteria that have been advanced as being fundamental for a system of accounting that differs dramatically from the traditional model. The second avenue explored is that segmented reporting has not been derived from accounting theory, but rather represents an extension of the data requirements imposed on firms by external agencies not primarily reliant on published accounting reports.

7.2 Objectives Ascertaining from the FASB Documentation

Two related fundamental questions are raised in arguments relating to the provision of segmented data: 'Who are identified as the users of published financial statements?' and, 'For what purpose, or purposes, do they use the data provided?'. The task force of the FASB in the preparation of the Discussion Memorandum has placed reliance on the American Institute of Certified Public Accountants' Accounting Principles Board Statement Number four:

The basic purpose of financial accounting and financial statements is to provide quantitative financial information about a business enterprise that is useful to statement users, particularly owners and creditors, in making economic decisions. ([6], par. 73.)

The authors of the Discussion Memorandum conclude:

Thus, for the purposes of this memorandum, the primary external user groups are deemed to be owners (both present and potential investors) and creditors. ([25], par. 10.)

Questions posed in the Discussion Memorandum are framed with reference to the point of view of these primary groups. The initial questions debated by the task force exemplify this emphasis:

Q.1.1. Is segment information useful for investment and credit decisions?
Q.1.2. If segment information is useful, for what purpose would such information be used in making investment and credit decisions. ([25], par. 22.)

Other users are identified or subsumed by the task force: 'customers, competitors, suppliers, Congress, governmental agencies, stock exchanges, security analysts, trade associations, labor unions, economists, consumer groups, news media and others'. However, the needs of those users for data for decision making receives no separate consideration in the Discussion Memorandum. A number of comments need to be made with regard to this division of users into primary and secondary groups.

The first point of concern is that the rationale for such a dichotomy is not stated. The writers of the Exposure Draft do not give any explanation of the differences they infer in the needs of these two groups of users of financial reports. Why the interests of those enterprise participants who contribute resources to an enterprise other than nominally repayable funds should be subordinated or secondary to those participants who contribute such resources is not made apparent. If this emphasis derives from existing statutory or other regulatory reporting requirements, which currently may offer some protection to the interests of 'investing' participants, this is not explicitly stated. Primacy of the owner-creditor group is not stressed in the body of the Exposure Draft. Paragraph five of that document, in stating the purpose of segment information, employs the generic and undefined term, 'statement users'. Reference is made in appendices to the Exposure Draft to 'security holders' ([27], par. 52.) to 'investors and lenders' ([27], par. 65.) and to 'investors and creditors'. ([27], par. 65.) What remains unclear, however, is whether the ambit of the purpose stated in the Exposure Draft for producing segmented data is intended to extend to the needs of 'secondary' users.

The Discussion Memorandum in paragraph eleven shows evidence that in the case of these secondary groups an awareness exists 'that these different user groups may have differing information needs'; however, recognition of such possible diversity of interest is not extended to the primary groups. That individual owners and creditors may have
diverging, or even conflicting, information needs is not explicitly countenanced by the FASB nor by its task force. Two avenues of resolution to this problem may be presented. The needs which either aggregative, or segmented financial reports, potentially satisfy may be stated independently of particular groups or individual users possessing those needs. The commonality of need, or the lack of it, then becomes a separate issue. The alternative solution is to rely on specification by regulatory authority of minimum disclosure requirements without regard to the theoretical support for such regulation. The latter approach runs counter to the stated policy of the FASB. Thus, attention is devoted in the Discussion Memorandum to specifying, albeit at a superficial level, the needs of statement users.

The FASB Discussion Memorandum urges caution with respect to the needs that can be satisfied by accounting statements.

... users needs and preferences are not known with any degree of certainty. ([25], par. 21.)

... the information needed by users for purposes of predicting the amount and timing of returns is not known with any degree of certainty. ([25], par. 28.)

This aspect is particularly disquietening when it is asserted by the FASB that the preparation of reports by accountants is a function primarily servicing such needs.

The purpose of the information ... is to assist financial statement users in analyzing and understanding the enterprise's statements ... ([27], par. 5.)

If the needs of financial statement users are not known with certainty then doubt must exist about the ability of any prepared statements, be they segmented or aggregative, to satisfy those requirements. Notwithstanding its use of such caveats, the FASB task force identifies three decision areas where the information contained in publishing accounting reports may be employed.

The three areas are described as: 'enterprise analysis' involving prediction of the amount and timing of investment cash flows, 'inter-enterprise comparisons', and 'comparisons with aggregate economic data'. Six factors are suggested in the Discussion Memorandum as being common
to the decision models of statement users. Comments are solicited on the question of how segment information might be used in the assessment, of these six suggested factors: 'profitability, rate of return, prospects for growth, degree of risk, management ability and financial condition'. (25, par. 31.)

The question of the utility of segmented data in relation to the three decision areas is canvassed. Discussion contained in Appendix B of the Exposure Draft does not follow the three-way break-down of investment decision-making introduced in the Discussion Memorandum. However, comments relevant to each area are made. With regard to 'enterprise analysis':

Since the progress and prospects of a diversified enterprise are composites of the progress and prospects of its several parts, financial information on a less-than-total-enterprise basis is (also) important. (27, par. 63.)

With regard to 'inter-enterprise comparisons':

Information prepared in conformity with those standards (paragraphs 5 to 45) may be of limited usefulness for comparing a segment of one enterprise with a similar segment of another enterprise. ... inter-enterprise comparison may be unrealistic. (27, par. 72.)

With regard to 'comparisons with aggregate economic data':

In analyzing an enterprise, a financial statement user often compares information about the enterprise with ... national or international economic information in general ... The broadening of an enterprise's activities into different industries or countries complicates the analysis ... Consequently, many financial statement users have said that consolidated financial information, while important, would be more useful if supplemented with segment information ... (27, pars. 61, 62 and 63.)

The Board concludes, in paragraph seventy-two of the Exposure Draft, that it is not appropriate to specify rules and procedures in the degree of detail necessary to make inter-enterprise comparisons of segmented data 'realistic'. The Board does not demonstrate that the figures derived from the rules and procedures that it does specify, are sufficiently 'realistic' to permit decision analyses and comparisons with aggregate economic data.

Two questions arise from these conclusions of the Financial Accounting Standards Board: Why will less stringent conditions
suffice in these two other areas? and, can there be varying degrees or levels of realism in reported financial figures? These questions are not answered by the Board. Despite reservations about the suitability of segmented data for making inter-firm comparisons, it is the FASB's conclusion that, '... investors and creditors need segment information to assist in analysing and understanding consolidated statements'. ([27], par. 65.) The argument presented is that the assessment of the progress and prospect of an enterprise is subject to a diverse range of influences including: 'factors unique to the particular enterprise - factors related to industries and geographic areas in which the enterprise operates and ... from national and international economic and political factors' ([27], par. 60.) and, 'Since the progress and prospects of a diversified enterprise are composites of the progress and prospects of its several parts, financial information on a less-than-total enterprise basis is (also) important'. ([27], par. 63.) This argument has a prima facie plausibility. However, it requires more support than the mere assertion that a list of factors are believed to be generally relevant to evaluations of future cash flows and risks. What is lacking in the FASB study is a demonstration that the proposals can achieve the stated goals and enhance the evaluations undertaken by statement users. Practical case studies and examples provided in the literature are in the main demonstrations that one or more procedures or techniques may be used to achieve a division of aggregative data. They do not show that the divided data enables better investment decisions to be made by statement users. This is the case with the illustrations included in the Exposure Draft.

The objectives directly ascertainable from the documentation prepared by the FASB may be summarized as follows: Although external users' needs are not known with certainty, ([25], par. 28.) existing regulations and a considerably body of literature, from both accounting and other related fields, advocate additional disclosures. ([25], passim.) The general objective is to assist financial statement users in analyzing and understanding the enterprise's past performance and future risks and prospects; it is argued that this may be achieved through disclosure of data about an enterprise's operations in different industries and different countries and about the extent of its reliance on major customers and export
sales. ([27], par. 5.) It is the Board's judgment that these objectives will be attained more readily under the broad standards it sets forth than by a rigid prescription of highly detailed rules and procedures for all enterprises. ([27], par. 70.) No direct evidence is produced to show that investors and creditors seek or require such data; nor is there any demonstration of the utility of the data provided in accordance with the 'broad standards' to achieve the objectives sought. There is no direct reference to a basic accounting theory which complements, or encompasses, the style of reporting advocated. Paragraphs three and four of the Exposure Draft refer to 'generally accepted accounting principles' and paragraph six mentions 'the same accounting principles used to prepare the enterprise's consolidated financial statements'.

7.3 Objectives from Related Sources

In this section, a study is made of the general arguments presented in the two types of accounting literature to which the FASB Discussion Memorandum refers. The first type of literature considered is the specific studies and articles which relate to separate external financial reporting for sections of a business enterprise. The second type is more general and includes some discussion on the general purposes and objectives of the whole accounting function.

Arguments in the first area of supporting literature may be categorised as follows. Segmented financial data is said to be useful because:

(i) It enables accurate projections of the future prospects of a diversified company to be made;
(ii) It enables the correct values for parameters in investor valuation models to be calculated;
(iii) It requires managers of such companies to justify their stewardship.

The Mautz (FEI) Study and Solomons provide illustrations of the first category:

(The investor) ... needs to know at least the variety, types, and relative importance of the several industries engaged in order to evaluate its overall competitive position. Without such an evaluation any forecast of its future prospects can scarcely be well founded ...(The investor) can do little more than make a blind guess at the company's future ... ([52], pp. 126, 7.)
... considering the methods by which such reporting may most effectively be done, it is important to keep before us the main purpose to be attained, namely, the enhancement of the predictive value of accounting information which is likely to result when the past and current performance of each segment of business is known rather than just the overall results ... ([82], p.92.)

With regard to the second category of argument, Mellman asserts that segmented profit data is needed for share evaluations; similarly, Rappaport and Lerner claim that segmented data is a necessary prerequisite for a variety of assessment techniques:

... a knowledge of the proportionate profit contributed by the specific business activities of the conglomerate is essential if industry wide price earnings ratios are to be used to evaluate the shares of a conglomerate. ([55], p. 597.)

(Investors) ... utilize different technologies for assessing the future growth prospects of a company. Some of these make primary use of industry data, others draw more heavily upon projecting the trends of the company itself. To meet the needs of both technologies companies should prepare income statements that reveal the contributions of 'basic activities' ...' ([66], p.4.)

Cohen, an early proponent of disaggregated external disclosures, provides an example of the third category of argument concerning stewardship, he suggests that segmented reporting:

... not only informs the investor and his advisor but also has an important control on corporate managers by requiring them to justify the results of their stewardship. There may be diversified companies which are maintaining low profit or money losing operations for reasons which would not be persuasive to stock holders and financial analysts, and requiring separable disclosure might well result in the improvement or elimination of the sub-standard operation, to the ultimate benefit of the stock holders. ([18], p. 59.)

With each of the above quotations reliance has been placed on assertion. There is no specification of the means by which the attainment of each of the benefits categorized is to be achieved.

Some limited research work has been undertaken to study the effects of the disclosure of segmented data on investor-corporation relationships. Empirical studies in this area have been conducted by:
Stallman, 1969, [85] - one hundred and twenty-one financial analysts;
Irish, 1972, [42] - thirty-five financial executives;
Karadbil, 1972 [45] - one hundred and twenty five industrial corporations;
Ponder, 1972, [64] - financial analysts and controllers;
Kochanek, 1972, [46] [47] - correlation studies comparing predicted and actual share price movements over different time periods.

The findings of these empirical studies were not used to justify the recommendations of the FASB Exposure Draft. The results of such research must be regarded as of questionable validity not only because of limitations in the research designs but because of the broader problems of relevance outlined in chapter six of this paper.

Kochanek's study which is one of the most widely quoted in this field, suggests that there is a need for more extensive and detailed work to link the disclosures of segmented results to positive benefits to investors and creditors. This need is evident from the qualified conclusions of his study.

The empirical results obtained suggest that predictions of future earnings were facilitated by the availability of segment data. In addition firms disclosing sub-entity results exhibited lower weekly stock price variability over time than firms not providing such information, although the quality of a firm's stock in terms of the historical growth and stability of earnings and dividends was a more important factor in explaining price fluctuations. ([47], p. 258.)

The rationale stressed by the Board for its pronouncement is a statement indicating that some users of financial statements have contended that they believe that segmented disclosures would be beneficial: '... investors, credit grantors, and other financial statement users have indicated that disaggregation of total enterprise financial data ... is useful to them'; ([27], par. 59.) '... many financial statement users have said that consolidated financial information, while important, would be more useful if supplemented with segment information ...'. ([27], par. 63.) The Board seeks no further justification for its entry
into this area other than this presumed need. No explanation is offered as to how users' decision-making will be improved. Several respondents pointed out that some companies had offered to supply to shareholders copies of the segmented financial data lodged with the Securities and Exchange Commission upon request; the demand for such data was minimal. These respondents argued that there was not in fact a worthwhile demand for segmented data from external users.

A number of Accounting Principles Board Opinions and Accounting Research Bulletins are cited in the Exposure Draft, however, these are not used to support an argument for segmental disclosures, these references occur only in the context where some doubt exists or an apparent conflict in the official pronouncements needs resolving. The theoretical support that the Board does offer for its conclusions is based on Accounting Principles Board Statement Number Four (APB4). This same document is the only reference directly used in the Discussion Memorandum in the section titled the 'Objectives of Financial Reporting'. Paragraphs three, four and six of the Exposure Draft contain references to 'generally accepted accounting principles' and it was thought that this may refer not only to APB4 (1970) but also to the 1965 Accounting Research Study Number Seven (ARS7), 'Inventory of Generally Accepted Accounting Principles for Business Enterprises' by Grady. With only one minor exception, a review of this work indicated no specific references to segmented reporting nor to broad objectives that would require the publication of such reports. One obscure statement in ARS7 dealing with the basic concept of specific business entities seems to be ambiguous in the context of separately reporting financial data for segments.

A subdivision or department of a corporation cannot be a reporting entity. Departmental assets, liabilities and earnings may be reported to stock holders as part of the complete financial statements of the entity but separate departmental statements standing alone for external use must be considered of a 'special purpose' nature. ([32], p. 26)

The narrowness of the theoretical support used by the FASB for its arguments and conclusions drew comment from some respondents to the Discussion Memorandum. Several mentioned that the issue of an Exposure Draft on the specific topic of segmented reporting, as a direct attempt to improve the quality of accounting reports, may preempt, or conflict
with, broad objectives to be promulgated in connection with another concurrent FASB project, 'Conceptual Framework for Accounting and Reporting Objectives, Qualitative Characteristics and Information'. These respondents argued that until these wider issues were resolved specific statements would at best be considered premature. The American Accounting Association stated:


Other respondents concerned with the broader issues indicated that they considered that reference to an expanded body of literature was warranted. Arthur Andersen & Co. ([26], Pt.1, Submission 92.) drew attention to their firm's publication: 'Objectives of Financial Statements for Business Enterprises'. Other respondents again referred to the 'Trueblood Report'. With the evident lack of unanimity that exists within the profession on a set of fundamental propositions about accounting, consensus on specific issues such as segmented reporting appears to be unlikely.

Notwithstanding these criticisms, an examination of APB4 was undertaken in an attempt to derive a broad framework that could be considered to be supportive of the Board's conclusions. The Board's initial reference to APB4 occurs in paragraph sixty-six of the Exposure Draft. The Board uses paragraph ninety of the Statement as a defense against criticisms of lack of verifiability of segmented data. Paragraph ninety of APB4 indicates whilst verifiability is advantageous, it is not based upon 'objective reality' but, because of human factors, involves variability, subjectivity and judgment. The sections of APB4 Paragraph ninety used are as follows:

Verifiable financial accounting information provides results that would be substantially duplicated by independent measurers using the same measurement methods ... Measurements cannot be completely free from subjective opinions and judgments. The process of measuring and presenting information must use human agents and human reasoning and therefore is not founded solely on 'objective reality'. Nevertheless, the usefulness of information is enhanced if it is verifiable, that is, if the attribute or attributes
selected for measurement and the measurement methods used provide results that can be corroborated by independent measurers.

This notion of a 'reasonable degree' of verifiability is strengthened in the Board's conclusion reached in paragraph sixty-seven of the Exposure Draft:

In the Board's judgment, the information required to be reported by this Statement meets the objective of verifiability in reasonable degree and is essential for analyzing and understanding an enterprise's financial statements.

The FASB draws on paragraphs eighty-seven to ninety-four of APB4 for support for this view. It cites the qualitative objectives listed in that publication for financial statements: verifiability, relevance, understandability, neutrality, timeliness, comparability and completeness. The Board explicitly adopts the following view in paragraph sixty-seven of the Exposure Draft:

the qualitative objectives are not absolute but, rather, must be met in reasonable degree. That is, an appropriate balance must be maintained among the objectives. For example, some degree of verifiability might have to be sacrificed to improve the relevance of information included in financial statements.

The FASB defends its proposals by arguing that they meet a test of reasonableness with regard to verifiability. The Board asserts that this level of reasonableness is determined with regard to, human errors in measurement, and 'set-offs' with other qualitative objectives, for example, relevance. As outlined in the Exposure Draft two separate areas of subjectivity are involved: the measurement process itself, and the determination of reasonableness with regard to the figures to be reported. No explanation is offered with regard to the narrowness of meaning associated with the term 'verifiable' that is employed by the Accounting Principles Board and adopted by the FASB. The term 'verify' is broadly defined and generally understood to mean to 'establish the truth or correctness of ... '. ([63], p. 913.) In this sense the term may be employed in situations where measurements are not required, or are not appropriate. In other cases the quantification of attributes or properties is involved and a verification may involve measurement. Statements may, upon the examination of evidence, be verified or fail to be verified as
to their substance. If quantification is involved, given a level of scaling, they may be found to be accurate or inaccurate. This second type of testing is the one utilized by the Boards to 'verify' accounting statements.

The 'substantial duplication' of results by independent measurers using the same measurement methods may provide some credence to a statement involving the quantification of some property, however it does not constitute a verification in accordance with the customary meaning of that term. Even with the Boards' narrower or 'technical' definitions of verification and the additional subjective aspects of 'reasonableness', (being primarily accuracy in measurement), there remains a need for evidence if a statement is to be verified. The importance of evidence to the process of verification is not established in the APB or FASB literature.

Another difficulty with the argument presented by the FASB is that no guidelines are provided for what is to constitute a 'substantial duplication' of results of measurements. Similarly, there is no means of ascertaining whether the objective of verifiability has been met 'in reasonable degree'. It appears that these decisions are to be made upon the basis of the opinions of those individuals responsible for the preparation, and audit, of financial statements. These opinions may well not be similar to those of the individuals reliant on the statements for their decision-making. One other conceptual problem derives from the Exposure Draft. This involves the balancing of objectives. *Prima facie* there is no necessary conflict between the seven objectives enumerated in APB4. No explicit conflict is shown. The 'example' of the sacrifice of verifiability for enhanced relevance is not supported, nor explained, in any way. Recourse to Accounting Principles Board Statement Number Four in a search for theoretical support for, or refutation of, the FASB proposals is not productive. There is substantial repetition in the two hundred and nineteen paragraphs, and many of these are capable of wide interpretation and application. A further obstacle encountered was that the Statement itself was indefinite and assertive in many areas. The views of the dissenting member of the Accounting Principles Board, appended to the statement, are relevant in this context:
... the concepts and principles set forth in this Statement are based upon ineffective foundations, along the lines of the following: (1) vague generalizations which are non-controversial but serve no useful purpose; (2) circular reasoning, with undefined terms being defined by other undefined terms, ... and (3) reverse logic, by summarizing a wide variety of customs and practices, many of which need to be changed and improved, and then rationalizing back to principles that presumably support what now exists.

The paragraphs used by the FASB are drawn from the chapter titled 'Objectives of Financial Accounting and Financial Statements'. The introductory paragraph seventy-three states: 'The basic purpose of financial accounting and financial statements is to provide quantitative financial information about a business enterprise that is useful to statement users, particularly owners and creditors, in making economic decisions'. The objectives of particular financial statements are described by paragraph seventy-five as being the fair presentation of financial position, results of operations and other changes in financial position in conformity with 'generally accepted accounting principles'. The requirement warrants interpretation and that is provided by paragraph one hundred and thirty-eight:

Generally accepted accounting principles therefore is a technical term in financial accounting. Generally accepted accounting principles encompass the conventions, rules and procedures necessary to define accepted accounting practice at a particular time. The standard of 'generally accepted accounting principles' includes not only broad guidelines of general application, but also detailed practices and procedures.

Thus the specific operations of practice which are accepted, even tacitly, have become embodied in the objectives spelt out in the Accounting Principles Board's statement of the basic concepts and principles forming the theoretical framework for accounting. Catlett's criticism of the self-perpetuating nature of the exercise appears to be warranted. ([6], pp. 9105, 9106.)

Discussion of verifiability occurs under the heading of qualitative objectives. The essentially subjective nature of these objectives is introduced in paragraph eighty-six of the Accounting Principles Board
Statement:

The qualitative objectives are related to the broad ethical goals of truth, justice and fairness that are accepted as desirable goals by society as a whole.

However, this characteristic is not included among the reasons for difficulty, suggested in paragraphs one hundred and ten to one hundred and thirteen, in achieving these objectives. It is argued that the seven identified qualitative objectives (relevance, understandability, verifiability, neutrality, timeliness, comparability, and completeness) are often difficult to achieve and are not equally capable of attainment. Three constraints are suggested as hindering the full achievement of these objectives: (1) conflicts between objectives; (2) environmental influences; and, (3) lack of complete understanding with the objectives.

With the first envisaged difficulty paragraph one hundred and eleven states:

It is not always possible, for example, to have financial statements that are highly relevant on the one hand and also timely on the other. Nor is it always possible to have financial accounting information that is both as verifiable and as relevant as desired.

No further amplification of these conflicts is offered. In the first case there does not appear to be a conflict; in fact relevance and timeliness may be viewed as complementary. The objective of relevance would appear to subsume the objective of timeliness. Similarly, no explanation or example is given showing that a possible inverse relationship may exist between verifiability and relevance. The second group of constraints contains two 'environmental' factors. The first of these is 'the inherent difficulties of measurement in terms of money'. This difficulty may well be insurmountable if an attempt is being made to measure non-monetary properties. The second is that the production of accounting data has a cost which must be considered against the benefits that the information may provide. The third grouping involves the circular argument that a clearer understanding of the objectives may result in their further improvement and hence clearer understanding. The Accounting Principles Board does not recognize that the nature of the objectives, being essentially subjective and idiosyncratic are incapable of universal attainment. Furthermore, there is no way that those individuals preparing
financial statements can determine whether for a majority of users these objectives have been attained even to a 'reasonable degree'.

Although not directly indicated in the FASB and Accounting Principles Board literature, the notion of verifiability employed in APB4 was developed in the American Accounting Association's 1966 publication 'A Statement of Basic Accounting Theory' (ASOBAT). In this work four 'basic standards' were enumerated: relevance, verifiability, freedom from bias, and quantifiability. A study of the American Accounting Association's Statement is of interest as it places an emphasis on evidence that is not found in the later literature.

Verifiability is that attribute of information which allows qualified individuals working independently of one another to develop essentially similar measures or conclusions from an examination of the same evidence data, or records. ... It (verifiability) is primarily concerned with the availability and adequacy of evidence attesting to the validity of the data being considered. ... It is essential that some means be available to assure users with varied interests that the information is dependable. This condition may be met by the use of established rules and conventions which, when applied consistently, leave a trail of evidence and procedures that can be verified. ([3], p. 10.)

Another interesting aspect of the American Accounting Association document is that measurement, described as the 'standard of quantifiability' is regarded as separate and distinct from verifiability. It appears that in the later Accounting Principles Board publication a largely unsuccessful attempt was made to encompass these two 'standards' as a single 'qualitative objective'.

Reference to APB4 concerning the purpose of accounting is vague and non-specific. Paragraph forty which introduces the chapter 'The Environment of Financial Accounting' seems to offer the promise of a development of the needs that financial accounting data can satisfy:

Accounting is a service activity. Its function is to provide quantitative information, primarily financial in nature about economic entities that is intended to be useful in making economic decisions - in making
reasoned choices among alternative courses of action.

The following paragraphs then provide a catalogue of likely statement users and decisions which they may undertake. A dichotomy between common needs and specialized needs leads to a classification of financial reports as general-purpose or specialized:

The emphasis in financial accounting on general-purpose information is based on the presumption that a significant number of users need similar information. General purpose information is not intended to satisfy specialized needs of individual users.

No attempt is made to examine the nature of the data to be provided under these separate classifications. No criteria are advanced to allow an assessment of the ability of certain data to meet user's needs, (whether these needs are presumed to be held by one individual, a small group of individuals or by most, if not all, statement users). Paragraph seventy-four suggests that different statements about an enterprise's operations might lead to confusion, thus the view inherent in this section is that accounting is a service function providing general-purpose statements which may not meet the needs of individual users, and providing specialised statements which may not meet the needs of a general audience of users. No support is offered for the view that certain financial data may be necessary but not sufficient for a wide body of users and that this data need not be adjusted to form an input for a variety of decisions by users. Paragraph forty-eight suggests that the superficial treatment of user needs for information in the preceding paragraphs may be a fruitful field for continuing research.

'A Statement of Basic Accounting Theory' contains an introduction that includes a consideration of the scope and objectives of accounting. As is the case with APB4 the discussion is generalised and difficulties arise with application to particular data. Four objectives of accounting are identified in ASOBAT:

The objectives of accounting are to provide information for the following purposes:

1. Making decisions concerning the use of limited resources, including the identification of crucial decision areas, and determination of objectives and goals.
2. Effectively directing and controlling an organization's human and material resources.
3. Maintaining and reporting on the custodianship of resources.
4. Facilitating social functions and controls. ([3], p. 4.)

The importance of accounting information for decision-making is recognised: '... the informational demands upon accounting are the requirements of the decisions in which it is used, and (that) these almost always have an orientation to the future.' ([3], pp. 5,6.), although in the chapter dealing specifically with accounting information for external users, American Accounting Association committee's conclusions are tentative, like those of the FASB a decade later.

Accounting information is the chief means of reducing the uncertainty under which external users act as well as a primary means of reporting on stewardship. Ideally, more should be known about what does and should affect their decisions. The decision models used are both diverse and complex. ([3], p. 19.)

The qualitative aspects of accounting data relating to evidence and verifiability are not stressed in the American Accounting Association Statement dealing with the objectives and utility of accounting data. The notion of 'trade-offs' found in APB4 was developed earlier in ASOBAT. ([3], pp. 27,28.) This notion, plus the view that '... the decisions of users cannot be described in terms of fully known and detailed decision models.' ([3], p. 23.), leads to the conclusion '... that he (the accountant) must impute some relationship between the entity and the users and from this draw conclusions as to what information is relevant to the users' needs.' ([3], p.26.) Thus despite its four 'standards' and five 'guidelines for communication' the American Accounting Association 1966 Statement does not contain sufficiently defined qualitative criteria to either support or refute arguments favouring financial reporting for segments of business enterprises.

There is no direct reference to segmented reporting in APB4. In paragraph one hundred and sixteen it is stated that the boundaries of an accounting entity need not coincide with legal boundaries. The description of an accounting entity as a 'circumscribed area of interest' does not preclude application to a segment. Elsewhere in the Statement the terms
'entity' and 'business enterprise' are used interchangeably. The generality of much of the Statement lends itself to either supporting or rejecting segmented reporting. It cannot be said that the extracts chosen by the FASB to defend criticisms about lack of verifiability of segmented accounting data have been used out of context. APB4, notwithstanding its use in the Exposure Draft, does not provide a theoretical support for the disclosure of segmented financial data. Their lack of specificity and their failure to develop an articulated set of principles prevent APB4 and ASOBAT being regarded as coherent statements of accounting theory. In particular the absence of a detailed analysis of the information needs of the users of financial statements, does not allow a case to be made out that these needs may only be satisfied by disclosures at levels below those of total business entities.

7.4 An alternative Accounting Theory

The purpose of this section is to briefly describe some of the characteristics of a general theory of accounting which may be considered as an alternative framework to that developed in Accounting Principles Board Statement Number Four and 'A Statement of Basic Accounting Theory' published by the American Accounting Association. This alternative approach differs significantly in two ways from the more traditional accounting literature. First, there is primary concern with the characteristics which distinguish information from data. This aspect is glossed over in much of the general theoretical accounting literature; it is mentioned by way of footnote in APB4.

The term information is sometimes applied only to relevant data. This statement does not distinguish between the terms information and data. ([6], p. 9067.)

Second, unlike the view expressed in APB4 ([4], par. 48.) and ASOBAT ([3], p. 23.) that the data information needs of users are not well known and constitute a field for continuing research, the general attributes that make data useful in decisions are analysed. These two areas were noted earlier as constituting obstacles to considering 'generally accepted accounting principles' as a coherent general theory of accounting against which the proposals to present segmented financial data to shareholders
could be tested.

A noticeable omission from much of the specific literature related to segmented reporting is an assessment of the qualitative features of the material presented to statement users. The absence, noted in the preceding section, of a specification of the ways in which users employ accounting reports, reflects a failure to analyse users decision-making processes on the part of many writers. Chambers and Sterling have each undertaken detailed studies of the role of information and the communication system in relation to decision-making. Their analyses provide a number of criteria whereby a distinction may be drawn between what may be termed, financial 'data' and what may be regarded as financial 'information'.

Information is something newly apprehended ... bearing on the situations in which choice is to be exercised. ([17], p. 145.)

Public knowledge is knowledge which is the common property of many men, and may be the property of all men ... financial information which is useful in relation to potential operations in markets must have the character of public knowledge. ([17], p. 146.)

Sterling enumerates two criteria for information: verity and relevance.

If a message is to be useful there are two prerequisites: (1) verity and (2) relevance. If a message does not accurately describe reality, its usefulness is, at least severely limited. Likewise, the message must be relevant to the problem under consideration before it can be of use to that problem. ([86], p. 40.)

Four criteria may be discerned from the writings of Chambers: relevance, neutrality, objectivity, and correspondence. The 'relevance' criterion common to the works of both authors is said to be satisfied if a signal 'reduces doubt' or has a 'capacity for modifying a predisposition for action' ([17], p. 146.) A consequence of this criterion is that 'information' does not exist per se. 'Information' must be related to individual recipients. It must effect a decision process in which a single recipient is engaged. Decision-making presupposes the existence of alternatives. Use of the word 'information' as a general description of published accounting figures, given the above constraints, technically must be restricted to messages that are regarded as relevant by all
identified user-participants. The decision-making processes of individuals have been described as 'black-boxes'. That is, decision outcomes emerge inexplicably from an admixture of factual, expectational and valuational premises. It is only to the first of these premises that 'information' pertains. Information inputs may thus be necessary, but not sufficient, for an individual user's decision model. The expectational and valuational premises are idiosyncratic, they are personal and subjective. Chambers refers to these two broad divisions as 'public' and 'private' knowledge. ([17], p. 146.)

The three remaining criteria for 'information' advanced by Chambers: neutrality, objectivity and correspondence, may be considered as expansions of the single criterion of verity used by Sterling. The common central issue is one of factuality. Argument on the question of the conformity of a proposition with the 'real world' can lead to metaphysical problems concerning differing perceptions of reality. Sterling comments as follows:

There is no ultimate solution to this problem. Instead, we resolve it by making an assumption that agreement among observers is the test for verity. Then we qualify and hedge on simple agreement by speaking of 'qualified' observers and of better or worse 'conditions' of observation. Thus, we make (1) a 'democratic' assumption that the modal perception and interpretation is the true one and (2) an 'authoritative' assumption that a certain group of people have superior perception and interpretation abilities. ([86], p. 44.)

Chambers recognised that the four separate factors he suggests are allied.

The criteria of objectivity, correspondence, relevance and neutrality all tend in a similar direction; they reinforce one another. But it seems to be worth emphasizing that they arise from quite different considerations. ([17], p. 56.)

Neutrality is described as the characteristic of independence of the possible uses to which information will be put, that is, '... information in a strict, scientific sense, uncolored by any presumption regarding its specific use'. ([17], p. 142.) Objective statements are those which are 'inter-subjectively testable'. Independent testing at a point in time to establish either corroboration or falsification is seen by both authors as essential for acceptance of verity. An objective statement
then is more than one which has gained a democratic majority or a consensus of opinion. For corroboration to result from an intersubjective verification there must exist a referent phenomenon in the (perceived) real world.

Objectivity is necessary as a protection against the intrusion of private statements and potentially biased and untestable statements. ([17], p. 156.)

The criterion of correspondence relates to the limited capacity for direct observation possessed by any individual. To overcome this limitation an individual may place reliance on data resulting from observation, processing and transmission by other individuals. The message received, an encoded collection of signs, is a surrogate for the principal which derived initially from phenomena in the real world capable of direct observation. If perfect correspondence exists between principal and surrogate throughout the encoding, transmission and decoding stages of the communication process, the message is termed by Chambers as 'isomorphic'. Isomorphism is said to exist where a message has the capability of selecting the same response in a recipient as would have occurred if he had directly observed the real world phenomena himself.

7.5 Application of an Alternative Theory

The foregoing brief description of the information criteria advanced by Sterling and Chambers can serve in two ways. The content of accounting reports, including segmented reports may be designated as 'information' or 'data'. Strictly used, the term 'information' implies a relevance to each individual recipient. The presumption that such relevance exists for each and every user must be conjectural on the part of any writer, hence a more appropriate term may be 'potential information'. Where 'information' is used in this paper it is used with this connotation. The term 'data' is used where a communication does not, or has not been shown to, meet the relevance and verity criteria. The second use made of the Chambers - Sterling criteria is a direct comparison with those suggested in the literature on segmented accounting. The FASB does not restrict its use of the word 'information' to its 'technical' meaning. In the Discussion Memorandum and the Exposure Draft the term is used to cover any material prepared by an organisation for participants.
By comparison with Chambers' and Sterling's work the consideration afforded by the FASB to the qualitative aspects of the data to be presented is superficial. Objectivity is equated with verifiability, then by reference to APB4, this becomes a subjective evaluation. Thus, the notion of 'degrees of verifiability' is supported. This view is expressed in connection with question 1.4 of the Discussion Memorandum.

The degree to which segment data are susceptible to objective verification depends, among other things, on the definition of the segment, the extent of intersegment transfers and the amount of costs incurred by the enterprise for the benefit of more than one segment. For example, segment sales and income information is likely to be more objectively verifiable if an enterprise were subdivided into a few broadly defined segments than if similar information were to be reported for each of several hundred individual products. Similarly, if there are significant intersegment transfers and no competitive markets by which transfer prices might be established on an arm's length basis, the objectivity of segment sales information would likely be diminished. Also, significant common costs reduce the degree of objectivity of segment income information due to the subjectivity of cost allocation methods.

The criteria adopted by the FASB are framed in such a manner that they rely on subjectivity rather than attempt to preclude it.

There is a great difference between 'substantial duplication of results by independent measurers using the same measurement methods' (APB4, par. 90.) that is the FASB concept of verifiability, and the testing required to meet the Chambers-Sterling criteria. The latter tests are concerned with factuality, that is, with relating to real world phenomena. Corroboration is by means of tests which, at a point in time, either falsify, or fail to falsify a statement. On the one hand there is the 'black and white' of acceptance or rejection of factuality, on the other there is the 'grey' subjectivity of the substantial duplication of a measurement. Reference to the American Accounting Association committee's definition of verifiability, from which the Accounting Principles Board notion appears to have been derived, reflects the emphasis given by Chambers and Sterling to real-world evidence.

Verifiability is that attribute of information which allows qualified individuals working independently of one another
to develop essentially similar measures or conclusions from an examination of the same evidence, data, or records. ([3], p. 10.)

Another interesting comparison can be made. As has been noted earlier, the APB4 'objectives' and the ASOBAT 'standards' are subject to balancing and to set-offs, it has been suggested that they may to a degree conflict.

With the information criteria, enumerated as part of an alternative theory, there are no conflicts, no trade-offs, each is seen as a separate qualitative test which must be satisfied before the details in accounting reports would be considered to be 'information' rather than 'data'. (The term misinformation is applicable when data is presented with the intention of deception). The material presented in accounts would be either relevant or irrelevant to readers. The accounts would be either veritable, that is, objective, neutral and correspondent; or not veritable. The financial reports would, in short, be factual or fictional. If this distinction was to be clearly drawn and readers' requirements established, by reference to this alternative theory and supported by appropriate empirical evidence, then a conclusion could be made as to the utility of segmented financial statements.

An examination of recent and current proposals to present segmented statements shows that they are not supported by the information criteria of this alternative accounting theory. The FASB proposals are to disaggregate financial statements currently prepared in accordance with 'generally accepted accounting principles'. The content of both the aggregated and the proposed segmented statements would in large measure fail to meet the criteria for 'information'. It is recognized that the acceptance of these alternative principles is not widespread. They must be seen as a minority viewpoint not having the support of a majority of accounting practitioners, nor the institutional sanction that is given to 'generally accepted accounting principles'. The two viewpoints are irreconcilable. Under 'generally accepted accounting principles' the practice of segmented financial reporting is permissible. There are, however, no requirements of the theoretical professional pronouncements that would appear to be satisfied only by the production of segmented
data. On the other hand the judgement involved in the selection of 'appropriate' and 'reasonable' techniques to achieve the disaggregation can be regarded as an extension of present practice under 'generally accepted accounting principles'. Because of this subjectivity segmented reporting does not accord with the principles of this alternative theory. This view is supported by Walker's comment: 'The production of misleading and manipulable data may currently be a fact of business life. But there is no reason to extend these practices further'. ([93], p. 33.)

7.6 Other Objectives of Segmented Data

Segmented financial information has been suggested as being useful for purposes other than providing a basis for investment and credit decisions. The disaggregation of the reported results of enterprises engaged in diverse operations has been considered as useful, or necessary, in reviewing relationships between business enterprises and other groups within the economy. These fields include: monopoly control; price justification; wage negotiation; protection and assistance to individual industries through tariffs, subsidies and bounties, and taxation concessions; and the curtailment of certain fields through the use of indirect taxes, excise and other levies. Additionally, there are often requirements of statistical bureaux to provide detailed data for compiling economic statistics as a basis for the exercise of fiscal and monetary policies by governments. In addition, insofar as groups of related companies have been regarded as unitary business enterprises for some purposes, there has remained a need to 'segment' data on the basis of the legal structure of the group. These fields include: filing of annual returns; establishing the asset available to satisfy the claims of creditors and minority interests; and the filing of direct taxation returns. The relationship between the effects on competitive position and the disclosure of results of the different activities in which a business enterprise is engaged has been a concern evident in much of the debate on segmented reporting.

The study of the historical development of proposals for the external reporting of segmented results undertaken in Chapter two of this paper, shows that the initial interest in the United States was directed towards
controlling the operations of large conglomerate corporations, rather than towards providing for the information needs of shareholders, creditors and other users. The curtailment of 'excessive' benefits and the reduction of 'unfair' practices were seen as the primary objectives to be attained through the additional disclosure required by the proposals to undertake financial reporting on a segment basis. In some cases such additional disclosures could be regarded as directly contrary to the interests of shareholder-creditor participants.

Sprouse has suggested that these differing objectives may require different data to be provided. (He makes no direct comment on the possibility of a conflict arising between these objectives.)

... it becomes increasingly clear that the objectives and informational needs of antitrust activities are so different from the objectives and informational needs of investors that the kind of financial reporting that would satisfy one is not likely to satisfy the other. ([84], p. 141.)

The conclusions of Sprouse are supported by the Backer and McFarland study.

In conclusion, evidence assembled in this study indicates rather clearly that needs for segment data expressed by investors and by government authorities concerned with anti-trust matters are distinctly different. Segment data desired by the latter group could not serve investors and creditors effectively. ([9], p. 13.)

The emphasis Sprouse and Backer and McFarland give to differing data user objectives tends to obscure the possibility that some data may possess utility for both groups. Some common-ground data may be necessary but not sufficient for both regulatory and investment/credit decisions. Acceptance by writers of the argument, that difference specific data is required for the differing specific needs of individual users, has obviated their critical study of the qualitative attributes that would be necessary if financial data were to serve some parts of the needs of a number of users in making a variety of decisions.

Two separately identifiable issues were of concern to early proponents of external segmented reports. The first was that, contrary to antitrust principles, divisions of large conglomerate or integrated corporations could eliminate the competition of smaller firms through
cross-subsidization.\(^1\) The second related issue was that the practice of aggregated accounting disclosure enabled such activities to be concealed from public scrutiny. It was envisaged that through the forcing of publication and filing of segmented reports, the need, if any, for antitrust measures would become apparent. Blair, Chief Economist of the U.S. Senate Anti-Trust and Monopoly Sub-committee, stated that '... the interest in divisional reporting of those concerned with antitrust ... stems from the need to know whether, where, and the extent to which conglomerate firms are engaging in cross-subsidization'. ([13], p. 26.)

Some authors who have argued against the introduction of measures such as segmental disclosure have done so, not on the grounds that scrutiny by legislative and other controlling bodies was an invasion of privacy or contrary to the principles of laissez-faire economics, but that competitive harm would result. Lynch suggests that segmented reports would be of benefit to competitors by providing data concerning:

... (1) Profitable or unprofitable products  
(2) Plans for new products or entries into new markets  
(3) Apparent weaknesses which might induce competitors to increase their own efforts to take advantage of this weakness  
(4) The existence of advantages not otherwise indicated ... ([48], p. 67.)

The argument that increased disclosure would assist competitors has been countered on two grounds. It is argued that smaller 'single-line' entities are unable to conceal results of their activities to the same extent as larger conglomerates and apparently suffer no competitive disadvantage between themselves as a consequence. Sprouse recognizes this point and uses the single-line manufacturer as a norm for determining the amount of data that should be released by a diversified enterprise.

A diversified company should not be required to provide information about one of its segments that is not generally required to be disclosed by a single-line manufacturer in the same industry; a diversified company should not withhold information about one of its segments

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1. 'Cross-subsidization' is described as the use of profits obtained in industries in which a company has substantial monopoly power to subsidize its operations in other industries where it has abnormally low profits or incurs losses.
that is generally required to be disclosed by a single-line manufacturer in the same industry. ([84], p. 148.)

The second argument asserted against competitive harm is that competitors often already possess considerable knowledge of their rival's operations gleaned from a wide variety of other sources.

Claims have also been made that harm to the enterprise, that is, more precisely, presumably financial detriment to shareholders, could occur if additional information regarding sectional results were released and made available to suppliers, employees and customers. Lynch says that 'Information thus made available would cause customers to challenge prices to the disadvantage of the company ...'. ([48], p. 67.) Answers to the question of competitive disadvantage are likely to be influenced by the predicted net effects envisaged by the affected individual respondent. Gibson's conclusion may be related to the view he adopts of the politico-economic environment in which segmented disclosure would operate.

The case for divisional disclosure rests soundly on grounds of public policy. In a free enterprise system the allocation of financial resources through the market system can not operate efficiently unless we have available proper information on performance in the various alternative uses of investment offered. ([29], p. 28.)

The issue of competitive disadvantage is debated by the FASB task force in the Discussion Memorandum. In paragraph sixty-nine of the Exposure Draft, the Board rejects the view that the consequences of segmental reporting in terms of the competitive position of an enterprise are paramount to the information needs of investors and creditors serviced by the proposed accounting reports.

An argument not apparent in the literature is that segmented data could also provide the basis for a shift in the competitive position of conglomerates to take place in the opposite direction to that more commonly suggested. For example, a diversified enterprise which is in a profitable situation (on the basis of its overall figures), may seek to publicly justify increased prices for its products in an 'unprofitable' division on the basis of publicly reported figures prepared and endorsed by professional accountants. The techniques adopted to determine
divisional 'profitability' may, to some extent at least, be exercised to achieve results in a predetermined direction. The amenability of the results of segments to manipulation is well recognized in the literature; however, this point does not appear to have been developed as a counter to the 'competitive harm' arguments. Proposals such as those contained in the FASB Exposure Draft may well provide the means whereby the competitive position of a conglomerate may be enhanced rather than diminished as is more commonly presumed.

These general arguments concerning the effects on competitive position of the disclosure of financial data on divisional activities are of only indirect concern to the FASB. The issue is debated in the Discussion Memorandum and the Board's recommendations are defended in paragraph sixty-nine of the Exposure Draft, on the grounds that, in the Board's judgment, the usefulness to investors and creditors outweigh the possible competitive harm. With regard to other objectives listed above which may necessitate disaggregation, there is usually some legislative, regulatory, or customary guidelines to be followed; although in some cases these are not sufficiently restrictive to avoid a variety of results from being legitimately determined. The opportunity for manipulation is thus not excluded. These difficulties are generally recognized and may be the subject of bargaining, ad hoc rule-making, or require a specification of the alternative methods chosen by those compiling the data to be included. It has been argued that shareholders in particular, do not have the same bargaining strength with the managers of business enterprises as governmental agencies possess and may thus be at a disadvantage in attempting to interpret circumscribed segmented data selected by management.

One aspect of these other objectives, that may be satisfied through the provision of segmented data, impinging on the question of segmented financial reporting for shareholders and creditors, is that they provide a precedent. Those individuals who favour the publication of segmented financial accounts can point to the fact that such data is already available to meet statistical, regulatory, and internal managerial needs. Those individuals who argue against the provision of such data to investors and creditors must do so not on the grounds that it cannot be
undertaken but that it should not be undertaken. Several respondents
to the Discussion Memorandum said that the existence of rules outside
the accounting standards was itself an important reason for adopting
the practice. They considered that the formulation of accounting
standards, of a 'sufficiently broad nature', would obviate the need
for outside requirements. These respondents viewed these outside
financial data regulations as usurping the functions of the professional
accounting bodies.

7.7 Review

The FASB Discussion Memorandum and Exposure Draft do not provide a
detailed theoretical justification for external reporting of the
financial results of segments of business enterprises. The FASB task
force identified a broad range of potential users of the published
statements, however, attention was directed to a primary group of
investors and creditors. The reason for this concentration was not made
clear, nor was there an explanation of why the data contained in accounts
may not be useful, even necessary although not sufficient, for individuals
whether they be classified in either the primary or secondary groups.

Accounting Principles Board Statement Number Four, 'Basic Concepts
and Accounting Principles Underlying Financial Statements of Business
Enterprises', is relied on exclusively by the FASB as the theoretical
framework for its proposals. Upon examination this was found to be a
superficial document, endorsing the diversity of practices allowable under
'generally accepted accounting principles'. No analysis of users'
decision-making is conducted; in fact, the caveat is frequently stressed
that the needs which accounting reports are presumed to satisfy are
neither well known nor properly understood. Except insofar as it condones
the exercise of judgement, that is, the introduction of subjectivity,
on the part of those preparing financial statements, there is no specific
support offered in APB4 for the FASB's proposals to present segmented
reports. Similarly, lacking in the FASB documents and the more general
literature is a demonstration that the production of segmented reports
would be beneficial to shareholders and creditors. An analysis of another
theoretical publication, the American Accounting Association's 'A Statement
of Basic Accounting Theory', was inconclusive as a basis for evaluating proposals for segmented reporting. It did however raise two significant points. These were that measurement and verification were separate problems with financial data, and that evidence was crucial to the verification aspect. This led to an examination of ideas of Chambers and Sterling regarding factuality.

It was found that the proposals for reporting segmented data contained requirements that would conflict with the Chambers-Sterling criteria for 'information'. If the alternative theory was to be adopted as a conceptual framework then proposals to produce financial reports for segments of firms would have to be rejected; although it was noted that the alternative theory does not at the present time have widespread support. However, the alternative principles provided a theoretical framework that allowed a definite, although negative, decision to be reached with proposals to present disaggregated financial reports. The reference to 'generally accepted accounting principles' did not allow such a definite decision to be made, because of the superficial treatment of the requirements of accounting statement users. Also it has been argued that accounting practices under 'generally accepted accounting principles' have created a need for better material for statement users which, at least in part, segmented reporting may be seen to be attempting to meet. From the point of view of the alternative theory the problem is essentially qualitative and the production of more data, not constituting 'information', was seen to be an unlikely remedy to the situation.

Other objectives, particularly those associated with governmental controls on the activities of corporations with diverse operations, may be satisfied through the production of statistics on a segmental or divisional basis. The bodies using these segmented statistics have a relationship with the management of enterprises that differs from the relationship between the management of a firm and its shareholders. In general, shareholders do not have the same scope to enquire into the details of the methods used and the choices exercised in the preparation of company reports. It has been argued that the demand for the production of segmented external reports has been strengthened by both the knowledge
that the division of aggregate data can be, and has been, made by diversified enterprises, and by the fear that increasing regulations to compel such disclosures may usurp the role presently played by the professional accounting bodies in determining the form and content of published financial statements.
CHAPTER 8
CONCLUSIONS

Evidence suggests that reports containing segmented data have been produced in increasing numbers over recent years, and that both professional rules and legislative reporting requirements into operation in a number of countries, have increased the frequency of such disclosures. It has been shown that, at least in part, the pressure for segmented disclosures has been strengthened by the knowledge that data for segments of enterprises have been prepared for a variety of other statistical and managerial purposes, and that companies have included segmented statements in their financial reports.

Resistance to the mounting pressure for segmented reporting, in general has been weak. To some extent, this may be explained by reference to the present state of the art of accounting. In 1958 Dean argued:

(For example,) one of the heresies I hope to persuade you of is that precise measurement of internal net profit is quite impossible ([21], p.5.)

The consequences of such a statement for the practice of reporting profit result figures for segments could have been quite profound; however the statement, and others like it, appear to have had no significant impact. Generally these arguments are accepted by those

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1. It has been pointed out that a number of writers seriously question the usefulness of segmented profit data for managerial purposes. They would argue that other bases for internal decision-making, such as budget-actual comparisons of controllable factors, are more appropriate. For example Shillinglaw states: 'No measure of profit, no matter how carefully defined, can eliminate the need for judgment in evaluating a manager's effectiveness in profit-control'. ([75], p. 36.)

Mauriel and Anthony pursue a different line of argument. They claim that the use of 'investment center' data for external reporting may in practice be disadvantageous to managers; because it may lead to such data being determined in conformity with 'generally accepted accounting principles'. 'As a result, management may be misled as to both the absolute size and the trend of an investment center's contribution to corporate ROI.' ([50], p. 105.)
individuals who would publish sub-enterprise figures. They claim that under present 'generally accepted accounting principles' there is no precise measurement of any accounting profit. They further argue that 'profit' is simply a term applied to the figure that results from the application of any one of a large number of possible combinations of the currently allowed diverse alternative rules, customs and practices. The premise of many proponents of segmented reporting is that accounting is, by its very nature, an imprecise art rather than an exact scientific discipline.

The argument that segments, and therefore results for segments, are fictional constructs and should not be reported for that reason, is not considered convincing by those individuals who accept a state of affairs where the customary practice of accounting contains much that is similarly based. Thomas ([90], p. 50.) was aware of the self-perpetuating nature of this point of view. He considered that the following quotation from Briloff was appropriate to the problems of allocations in accounting; it is also relevant to segmented reporting.

As Walter Lipman observed a half century ago, under certain conditions, men respond as powerfully to fiction as they do to realities, and in many areas they help to create the very fictions to which they respond. ([15], p. 59.)

Critics of segmented accounting can be classified according to the nature of their objections. There are those writers who are critical of much of conventional accounting practice and who believe that the theoretical structure from which it derives is conceptually unsound. To this group, segmented reporting is another addition to the field of erroneous or inappropriate data being issued by accountants wedded to traditional dogma. A second class is those writers who are critical of specific areas of the practice of deriving results for segments such as transfer prices, cost allocations definition of segments, and audit. Some authors in this group question the feasibility of the entire exercise of reporting results for segments because of the apparently unresolvable nature of these particular problems. Many others however consider that dealing with these difficulties, constitutes a normal part of the accountant's role.
Some authors conclude that the two fields of criticism above are interrelated, and that the problems of practical implementation are direct consequence of the present ambiguity and superficiality of 'generally accepted accounting principles'. They see the 'solution' of broadening the area of financial reporting as a 'stop-gap' response to some of the present deficiencies in accounting reports prepared in accordance with the generally employed theoretical accounting framework. The area of interest in this paper is restricted to segmented reporting; thus the ramifications of these arguments for other and wider fields of accounting endeavour have not been considered here. Similarly, the view that, in general, financial statements prepared following accepted practices may be less than satisfactory when aligned with certain criteria has been mentioned as perhaps a limited form of defence, rather than as constituting a substantive justification for the financial reporting of results for segments.

It has been found that no single solution to any one of the problems that arise if segmented reporting is to be undertaken has gained acceptance in the literature or in practice. The areas where difficulties have commonly been seen to need solving include: pricing of goods and services transferred between segments; allocating jointly related expenses, revenues, assets and claims against assets; and defining the segments for which reports are to be prepared. Even the application of arbitrary rules, such as those contained in the FASB Exposure Draft, often does little to preclude the selection of techniques and definitions by 'managers' in the preparation of reports to other participants. (In many cases these rules endorse the exercise of such choice, as well as seeking to extend the publication of the subjectively determined results.) A consequence of these two factors is that there is ambivalence in the views of both accountants and other interested parties with regard to the benefits that segmented reports have for readers, and as to the feasibility of their audit by accounting practitioners.

Frequently arguments for segmented reporting rely on repeated assertions that such disclosures would assist users in making their decisions. Detailed analyses of the decision-making processes of users and the establishment of a connection with the segmented data are usually lacking. Another means of support used is a reliance upon ambiguous and generalised statements of accounting theory. The
FASB uses the 'generally accepted accounting principles' expounded in Accounting Principles Board Statement Four in this manner. Upon inspection, APB4 appeared to have been influenced by the American Accounting Association's publication 'A Statement of Basic Accounting Theory', however the ASOBAT 'standards' of verifiability and quantifiability had been unsuccessfully merged in APB4 and the and the emphasis in ASOBAT on evidence was ignored. Lacking from both the literature dealing specifically with segmented reporting and from the two theoretical publications referred to above was a consideration of the qualitative criteria that would make data, be it 'aggregated' or segmented, useful to decision-makers in general. A study of criteria of this type, developed as part of an alternative theory to 'generally accepted accounting principles', emphasized verity and correspondence with real-world phenomena. This emphasis could be linked to the need for evidence indicated in ASOBAT.

Notwithstanding a lack of acceptance by most of the accounting profession, reference to the qualitative criteria for financial 'information' development by Chambers and Sterling would allow a clear-cut decision to be made with regard to segmented reporting. This could not be done with the traditional accounting theory literature: nothing could be found which required or precluded this style of reporting. The result of applying the Chambers-Sterling criteria was that segments being components of legal entities could not be said to have a real-world existence. From this framework, segments would be viewed as fictional constructs because no factual evidence could be obtained to verify any particular transfer price, allocation of a financial element, or definition of a segment. Data for sub-entities would not be considered to be financial information irrespective of its relevance to a reader.

Sufficiently precise rules to remove the opportunity for some manipulation of results by those individuals responsible for the preparation of segmented financial reports has not evolved from customary practice, nor is it evident in the legal and professional regulations (including the draft standard of the FASB). However,
the difficult problems of transfer prices and allocations of financial elements would not be entirely resolved by not having segmented reporting. Where such relationships occur between 'associated' but separately legally recognised firms the scope for manipulating the reported results and financial positions remains. Reference to legal status does however provide real-world evidence of the boundaries of the reporting entity, which is a crucial aspect of the Chambers-Sterling alternative theory.

A historical study shows that the thrust for segmented reporting in the U.S.A. emerged not from a desire on the part of the accounting profession to satisfy requirements embodied in a broad theory, but as an extension of data demands from external regulatory agencies. These external bodies have relationships with the controllers of business enterprises that differ from those of external users dependent upon published financial reports.

Under the conventional principles of accounting the basic problems are unresolved: financial reporting for segments of a business enterprise remains essentially a subjective exercise. Reports for sub-entities up to the present time have relied heavily on the judgement of those responsible for their preparation. The data provided cannot be verified by reference to evidence. An 'outside' reader cannot ascertain whether managers have made choices in the preparation of the reports that were designed to influence his decision towards a particular outcome or whether they have acted altruistically. Readers cannot determine the extent to which the data has been effected even if they make presumptions regarding the motives of those responsible for the preparation of published segmented statements. The essential point of difference between the protagonists to the debate is as to the relative importance of this state of affairs.

Despite the favourable interest shown by many writers and the growing body of overseas regulations and accounting pronouncements requiring and advocating such disclosures, the introduction of mandatory financial reporting requirements for segments of business enterprises (other than subsidiaries of 'groups' of companies) remains a highly contentious issue. Accountants in Australia may be wise not to follow the lead of the profession in some overseas countries in this area.
There is a need for further careful consideration. A more fruitful avenue of development may be for the accounting profession initially to examine critically the fundamental structure of accounting theory as a prerequisite to a more rigorous appraisal of specific proposals, such as those requiring the reporting of certain financial figures for segments of firms, to be made.

The foregoing cautious conclusion conflicts with the majority of studies upon this subject. Criticisms of many of the arguments used to support proposals to publish segmented accounting data have been presented earlier in this paper. However some of the justifications used to support segmented reporting warrent additional comment. One of the strategies to defend accounting practices in general is that readers need to be 'educated' to understand their inherent limitations. Backer and McFarland extend this line or argument to segmented accounting.

That some individuals may fail to understand the limitations does not seem to justify withholding information which has potential value to many users. ([9], p. 11.)

The contrary argument presented here was that no individual could fully comprehend the possible effects of undisclosed choices exercised in the preparation of segmented data with which he is provided. That is, a reader could not determine which result figure out of a range of result figures has been presented to him, nor could he even ascertain the parameters of the range; a full knowledge of 'the limitations' may in fact lead a reader to the conclusion that segmented data has no 'potential value' to him.

Variations on this general line of argument are that: provided a segmented statement reader is made aware of the particular choices and assumptions made then this would make the data useful; alternatively, if the methods and procedures involved are prescribed by rules then these would, or should, be known to a reader and he can interpret the data accordingly. The argument opposing this point that has been suggested is that it is extremely doubtful whether all the choices made in the division of the pertinent financial components could be sufficiently explained. A further question arising from this is whether the methods adopted could be justified other than on the grounds of asserted
'reasonability' or 'fairness' to those individuals preparing (and possibly being judged on) the reports. With the second line of argument, a study of rules advanced to date, of which the FASB proposals are the most comprehensive, indicates that the opportunity for the exercise of choice, at least to some degree, has not been precluded. Because the field of alternative definitions and methods is not fully constrained, additional arguments that the likely differences resulting from alternatives will be not significant, and that consistent application of methods will offset such differences, can only be regarded as unsupported assertions.

The final arguments concerning segmented reporting that need to be considered involve the idea of limiting either the data to be conveyed or the emphasis to be placed upon it. Suggestions of this type include proposals that only some of the revenues, expenses, assets and claims on assets be segmented in the accounts. Two related criticisms have been directed to this suggestion. The first was that experience suggests that there is no single basis capable of universal application whereby an objective classification, between those elements to be recorded against particular segments and those that are not, can be made. The second criticism was that varying levels of partial segmentation offer yet another avenue for manipulation. It has been suggested that both the arguments to limit the amount of data segmented and the emphasis placed upon it tend to indicate that the bases used may not be believed to be valid and reliable, unless it can be explained why they can be used in certain circumstances but not in others. The literature generally contains very little that may be considered as providing such an explanation.

Another view is that segment reports are of a supplementary nature and will not reduce the utility of aggregated statements published at the same time. A similar idea is that the segmented date may be reported by way of 'auxiliary statistics' rather than as part of the accounts in annual reports. In addition to noting the defensiveness of such suggestions, critics have argued that the presentation of two sets of data would tend to increase readers' uncertainty rather than diminish it. The second suggestion would appear to have some merits. For example, the data would then not appear to be under the aegis of
the accounting profession. Similarly if it was to be a voluntary disclosure, then it may be recognized as being made, if at all, in a form not disadvantageous to those individuals preparing and releasing the reports. The case of a disclosure of sales revenue by produce line, customer grouping or geographic area would appear to be a commendable addition to a report for shareholders. However this suggestion has been criticised as providing additional scope for manipulation between groupings under these categories and there is the problem of the choice of categories itself; also separate reporting tends to indicate an independence of the groupings employed that may not exist. A further problem envisaged by some writers is that the reporting of sales revenue may of itself not be considered by some readers to be sufficient, leading to their demands for division of relevant costs and to the generation of more and more of the problems that accompany segmented reporting.

The difficulties with segmented financial data persist. There are numerous variables that operate and can be manipulated if segmented reports are produced. Both the problems of practical implementation and questions concerning the theoretical propriety of the proposals to present segmented data, upon analysis, hinge upon notions as to the utility of sub-enterprise financial statements for readers. The literature available discloses little material relating to assessments of the utility of any accounting reports for their intended readers. Writers espousing traditional accounting principles admit that this is an undeveloped area. The writings of Chambers and Sterling suggest the type of material that should theoretically be required by readers in their general decision-making processes and this does not include segmented data. The ideas of these two writers however run counter to the mainstream of present thought and practice within the accounting profession. Thus the debate on whether segmented reporting should be undertaken remains largely assertive. Consensus on the question appears unlikely in the near future in view of the unresolved practical problems, the wide disparity in viewpoints upon general accounting theory, and the dearth of empirical data on statement readers' utility functions. In the final evaluation, the promulgation of mandatory requirements for publishing the financial results of segments of business enterprises appears to be a premature step in what remains a contentious area of accounting.
## APPENDIX A

### ANALYSIS OF WRITTEN SUBMISSIONS TO

**FASB PUBLIC HEARING**

**AUGUST 1, 1974**

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<th>Submission to FASB Public Hearing</th>
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<td>68</td>
<td>Evans Products Company</td>
<td>Not Ascertainable</td>
<td>Not Ascertainable</td>
</tr>
<tr>
<td>69</td>
<td>Haskins &amp; Sells</td>
<td>Agreement</td>
<td>Not Ascertainable</td>
</tr>
<tr>
<td>70</td>
<td>Texaco Inc</td>
<td>Disagreement</td>
<td>Disagreement</td>
</tr>
<tr>
<td>71</td>
<td>Peoples Gas Company</td>
<td>Agreement</td>
<td>Not Ascertainable</td>
</tr>
<tr>
<td>72</td>
<td>Elmer Fox &amp; Company</td>
<td>Agreement</td>
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<tr>
<td>73</td>
<td>Schering - Plough Corporation</td>
<td>Agreement</td>
<td>Agreement</td>
</tr>
<tr>
<td>74</td>
<td>Owens - Illinois</td>
<td>Agreement</td>
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<td>75</td>
<td>Masonite Corporation</td>
<td>Disagreement</td>
<td>Not Ascertainable</td>
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<td>76</td>
<td>D A Rowe</td>
<td>Agreement</td>
<td>Not Ascertainable</td>
</tr>
<tr>
<td></td>
<td>Royal Dutch/Shell Group of Companies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>Machinery and Allied Products Institute</td>
<td>Disagreement</td>
<td>Not Ascertainable</td>
</tr>
<tr>
<td>78</td>
<td>Edison Electric Institute</td>
<td>Agreement</td>
<td>Not Ascertainable</td>
</tr>
<tr>
<td>79</td>
<td>Tenneco Inc</td>
<td>Agreement</td>
<td>Disagreement</td>
</tr>
<tr>
<td>80</td>
<td>CPC International Inc</td>
<td>Strong Disagreement</td>
<td>Not Ascertainable</td>
</tr>
<tr>
<td>81</td>
<td>Kraftco Corporation</td>
<td>Strong Disagreement</td>
<td>Not Ascertainable</td>
</tr>
<tr>
<td>82</td>
<td>The Greyhound Corporation</td>
<td>Agreement</td>
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</tr>
<tr>
<td>83</td>
<td>City Investing Company</td>
<td>Agreement</td>
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<td>84</td>
<td>Defense Contract Audit Agency</td>
<td>Agreement</td>
<td>Agreement</td>
</tr>
<tr>
<td>85</td>
<td>The Procter &amp; Gamble Company</td>
<td>Strong Disagreement</td>
<td>Disagreement</td>
</tr>
<tr>
<td>86</td>
<td>The Times Mirror Company</td>
<td>Agreement</td>
<td>Agreement</td>
</tr>
<tr>
<td>87</td>
<td>Armco Steel Corporation</td>
<td>Strong Disagreement</td>
<td>Disagreement</td>
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<tr>
<td>88</td>
<td>Massey - Ferguson Limited</td>
<td>Disagreement</td>
<td>Disagreement</td>
</tr>
<tr>
<td></td>
<td>Name of Organization</td>
<td>Agreement/Disagreement</td>
<td>Ascertainment Status</td>
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<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------</td>
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<td>----------------------</td>
</tr>
<tr>
<td>89.</td>
<td>Louisiana - Pacific Corporation</td>
<td>Agreement</td>
<td>Agreement</td>
</tr>
<tr>
<td>90.</td>
<td>District of Columbia Institute of Certified Public Accountants Accounting Principles Committee</td>
<td>Agreement</td>
<td>Not Ascertifiable</td>
</tr>
<tr>
<td>91.</td>
<td>General Electric Company</td>
<td>Strong Disagreement</td>
<td>Disagreement</td>
</tr>
<tr>
<td>92.</td>
<td>Arthur Andersen &amp; Co</td>
<td>Agreement</td>
<td>Not Ascertifiable</td>
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<tr>
<td>93.</td>
<td>Merck &amp; Co Inc</td>
<td>Disagreement</td>
<td>Not Ascertifiable</td>
</tr>
<tr>
<td>94.</td>
<td>Northeast Utilities Service Company</td>
<td>Agreement</td>
<td>Not Ascertifiable</td>
</tr>
<tr>
<td>95.</td>
<td>American - Standard</td>
<td>Agreement</td>
<td>Disagreement</td>
</tr>
<tr>
<td>96.</td>
<td>National Electrical Manufacturers Association</td>
<td>Agreement</td>
<td>Disagreement</td>
</tr>
<tr>
<td>97.</td>
<td>Financial Executives Institute Committee on Corporation Reporting</td>
<td>Strong Disagreement</td>
<td>Disagreement</td>
</tr>
<tr>
<td>98.</td>
<td>Interstate Natural Gas Association of America</td>
<td>Not Ascertifiable</td>
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</tr>
<tr>
<td>99.</td>
<td>Standard Oil Company of California</td>
<td>Agreement</td>
<td>Not Ascertifiable</td>
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<tr>
<td>100.</td>
<td>Chrysler Corporation</td>
<td>Agreement</td>
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<tr>
<td>101.</td>
<td>American Cyanamid Company</td>
<td>Agreement</td>
<td>Agreement</td>
</tr>
<tr>
<td>102.</td>
<td>Touche Ross &amp; Co</td>
<td>Agreement</td>
<td>Agreement</td>
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<tr>
<td>103.</td>
<td>Marcor Inc</td>
<td>Not Ascertifiable</td>
<td>Not Ascertifiable</td>
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<tr>
<td>104.</td>
<td>The New York Society of Certified Public Accountants</td>
<td>Agreement</td>
<td>Agreement</td>
</tr>
<tr>
<td>105.</td>
<td>General Motors Corporation</td>
<td>Strong Disagreement</td>
<td>Not Ascertifiable</td>
</tr>
<tr>
<td>106.</td>
<td>General Mills Inc</td>
<td>Strong Disagreement</td>
<td>Not Ascertifiable</td>
</tr>
<tr>
<td>107.</td>
<td>The Boeing Company</td>
<td>Strong Agreement</td>
<td>Not Ascertifiable</td>
</tr>
<tr>
<td>108.</td>
<td>Arthur Young &amp; Company</td>
<td>Strong Agreement</td>
<td>Agreement</td>
</tr>
<tr>
<td>109.</td>
<td>E I Du Pont de Nemours &amp; Company Incorporated</td>
<td>Strong Disagreement</td>
<td>Disagreement</td>
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<tr>
<td>110.</td>
<td>Gulf Oil Corporation</td>
<td>Strong Agreement</td>
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<td>111.</td>
<td>Mobil Oil Corporation</td>
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</tr>
<tr>
<td>112.</td>
<td>Standard Oil Company (Indiana)</td>
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<tr>
<td>113.</td>
<td>Rockwell International Corporation</td>
<td>Agreement</td>
<td>Disagreement</td>
</tr>
<tr>
<td>114.</td>
<td>Texas Eastern Transmission Corporation</td>
<td>Agreement</td>
<td>Disagreement</td>
</tr>
<tr>
<td>115.</td>
<td>The Financial Analysts Federation Financial Accounting Policy Committee</td>
<td>Strong Agreement</td>
<td>Agreement</td>
</tr>
<tr>
<td>116.</td>
<td>Hurdman and Cranstoun</td>
<td>Agreement</td>
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<tr>
<td>117.</td>
<td>International Harvester</td>
<td>Disagreement</td>
<td>Not Ascertifiable</td>
</tr>
<tr>
<td>118.</td>
<td>Aluminium Company of America</td>
<td>Strong Disagreement</td>
<td>Disagreement</td>
</tr>
<tr>
<td>119.</td>
<td>Eaton Corporation</td>
<td>Not Ascertifiable</td>
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<td>120.</td>
<td>Frances Stone and Associates Financial Analysts Federation</td>
<td>Strong Agreement</td>
<td>Agreement</td>
</tr>
<tr>
<td>121.</td>
<td>Frank Breger Santa Fe Industries Inc</td>
<td>Strong Agreement</td>
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<tr>
<td>122.</td>
<td>United Aircraft Corporation</td>
<td>Agreement</td>
<td>Agreement</td>
</tr>
<tr>
<td>123.</td>
<td>Sears, Roebuck and Co</td>
<td>Strong Agreement</td>
<td>Not Ascertifiable</td>
</tr>
<tr>
<td>124.</td>
<td>Union Oil Company of California</td>
<td>Not Ascertifiable</td>
<td>Disagreement</td>
</tr>
<tr>
<td>125.</td>
<td>Citicorp</td>
<td>Strong Agreement</td>
<td>Not Ascertifiable</td>
</tr>
<tr>
<td>126.</td>
<td>American Gas Association Application of Accounting Principles Committee</td>
<td>Agreement</td>
<td>Not Ascertifiable</td>
</tr>
<tr>
<td>127. USM Corporation</td>
<td>Strong Disagreement</td>
<td>Disagreement</td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>128. The New York Stock Exchange Inc</td>
<td>Strong Agreement</td>
<td>Agreement</td>
<td></td>
</tr>
<tr>
<td>129. Cost Accounting Standards Board</td>
<td>Agreement</td>
<td>Not Ascertifiable</td>
<td></td>
</tr>
<tr>
<td>130 John A Grady Interstate Commerce Commission</td>
<td>Agreement</td>
<td>Agreement</td>
<td></td>
</tr>
<tr>
<td>131 Exxon Corporation</td>
<td>Strong Agreement</td>
<td>Not Ascertifiable</td>
<td></td>
</tr>
<tr>
<td>132. Ford Motor Company</td>
<td>Strong Agreement</td>
<td>Not Ascertifiable</td>
<td></td>
</tr>
<tr>
<td>133. Minnesota Mining and Manufacturing Company</td>
<td>Disagreement</td>
<td>Not Ascertifiable</td>
<td></td>
</tr>
<tr>
<td>134. American Insurance Association</td>
<td>Strong Agreement</td>
<td>Not Ascertifiable</td>
<td></td>
</tr>
<tr>
<td>135. Charles Toder American Metal Climax Incorporated</td>
<td>Agreement</td>
<td>Not Ascertifiable</td>
<td></td>
</tr>
<tr>
<td>136. Varian Associates</td>
<td>Strong Disagreement</td>
<td>Disagreement</td>
<td></td>
</tr>
<tr>
<td>137. The Babcock &amp; Wilcox Company</td>
<td>Strong Disagreement</td>
<td>Disagreement</td>
<td></td>
</tr>
<tr>
<td>138. Inland Steel Company</td>
<td>Strong Agreement</td>
<td>Agreement</td>
<td></td>
</tr>
<tr>
<td>139. National Retail Merchants Association</td>
<td>Strong Agreement</td>
<td>Agreement</td>
<td></td>
</tr>
<tr>
<td>140. Arizona State Society of Certified Public Accountants Financial Accounting Standards Committee</td>
<td>Agreement</td>
<td>Agreement</td>
<td></td>
</tr>
</tbody>
</table>

**SUMMARY OF SUBMISSIONS: Attitudes to Statements:**

| Strong Agreement | 35 |
| Agreement | 66 |
| Not Ascertifiable | 10 |
| Disagreement | 11 |
| Strong Disagreement | 19 |

141 141
APPENDIX B

EXHIBITS A TO D OF THE FASB EXPOSURE DRAFT

The following exhibits are included in Appendix E of the Exposure Draft entitled: 'Illustration of Financial Statement Disclosures':

Exhibit A  Consolidated Income Statement
Exhibit B  Segmented Income Statement - by industry - brief form
Exhibit C  Segmented Income Statement - by industry - expanded form
Exhibit D  Segmented Income Statement - by country.

An additional exhibit (A*) is not presented in the Exposure Draft but has been completed from details shown in Exhibits B, C and D.

The exhibits in the Exposure Draft are introduced by paragraphs 88 and 89.

88. This Appendix contains several examples of disclosures of the type that this statement requires to be included in the financial statements of a business enterprise. The illustrations do not encompass all possible circumstances, nor does the format used indicate a particular preference of the Board.

89. Exhibit A presents the consolidated income statement of a hypothetical company for the year ended December 31, 1976. Exhibits B and C are both examples of how that company might present information about its operations in different industries and its reliance on a major customer, with Exhibit B illustrating minimum disclosures called for by this Statement and Exhibit C including information that goes beyond the minimum requirements. Exhibit D illustrates how the company might present information about its foreign operations and export sales.
EXHIBIT A

X Company
Consolidated Income Statement
Year ended December 31, 1976

Sales $4,700

Cost of Sales $3,000
Depreciation 400
Selling, general, and administrative expense 300
Interest expense 200 3,900

Equity in net income of Z Co. (25% owned) 800

Income from continuing operations before income taxes 900
Income Taxes 400

Income from continuing operations 500

Discontinued operations:
Loss from operations of discontinued West Coast division (net of income tax effect of $50) 70
Loss on disposal of West Coast division (net of income tax effect of $100) 130 200

Income before extraordinary gain and before cumulative effect of change in accounting principle 300

Extraordinary gain (net of income taxes of $80) 90

Cumulative effect on prior years of change from straight-line to accelerated depreciation (net of income tax effect of $60) (60)

Net Income $ 330
EXHIBIT A*

X Company
Consolidated Balance Sheet
at December 31, 1976

<table>
<thead>
<tr>
<th>Current Assets (including marketable securities)</th>
<th>$6,240</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property, plant and equipment</td>
<td>$12,100</td>
</tr>
<tr>
<td>Less accumulated depreciation</td>
<td>3,500</td>
</tr>
<tr>
<td>Other non-current assets (central office)</td>
<td>160</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>$15,000</td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>$ 1,200</td>
</tr>
<tr>
<td>Long-term debt and shareholders' equity</td>
<td>13,800</td>
</tr>
<tr>
<td><strong>Total Equities</strong></td>
<td>$15,000</td>
</tr>
</tbody>
</table>

**Note**

90% of assets employed at the Company's central administrative office are assumed to be current assets.

These assets are described in exhibits B, C, and D as 'principally cash and marketable securities'. 
EXHIBIT B

X Company
Information about the Company's Operations in Different Industries
Year ended December 31, 1976

<table>
<thead>
<tr>
<th>Industry</th>
<th>Industry</th>
<th>Industry</th>
<th>Other</th>
<th>Eliminations</th>
<th>Consolidated</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales to unaffiliated customers</td>
<td>$1,000</td>
<td>$2,000</td>
<td>$1,500</td>
<td>$200</td>
<td>$4,700</td>
</tr>
<tr>
<td>Intersegment sales</td>
<td></td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total revenue</td>
<td>$1,200</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$200</td>
<td>$(700)</td>
</tr>
<tr>
<td>Profit contribution</td>
<td>$500</td>
<td>$440</td>
<td>$800</td>
<td>$100</td>
<td>$(40)</td>
</tr>
<tr>
<td>Operating profit</td>
<td>$300</td>
<td>$290</td>
<td>$600</td>
<td>$50</td>
<td>$(40)</td>
</tr>
</tbody>
</table>

Expenses of central administrative office (100)
Interest expense (200)

Income from continuing operations before income taxes $900

Identifiable assets at December 31, 1976
$2,400 $4,050 $6,000 $1,000 $(50) $13,400

Assets employed at the Company's central administrative office
1,600
Total assets at December 31, 1976
$15,000

Note: The Company operates principally in three industries, (A), (B) and (C). Operations in Industry A involve production of (describe types of products and services). Operations in Industry B involve production of (describe types of products and services). Operations in Industry C involve production of (describe types of products and services). Total revenue by industry includes both sales to unaffiliated customers, as reported in the Company's consolidated income statement, and intersegment sales, which are accounted for by (describe the basis at which intersegment sales are accounted for).
Profit contribution is total revenue less directly traceable costs and expenses. Operating profit is profit contribution less allocated operating costs and expenses. In computing both profit contribution and operating profit, none of the following items has been added or deducted: expenses incurred by the Company's central administrative office, interest expense, income taxes, loss from discontinued operations of the West Coast division (which was a part of the Company's operations in Industry B), 'extraordinary gain (which relates to the Company's operations in Industry A), and the cumulative effect of the change from straight-line to accelerated depreciation (of which $30 relates to the Company's operations in Industry A, $10 to Industry B, and $20 to Industry C).

Profit contribution and operating profit of Industry A both include the Company's $100 equity in the net income of Z Co., which is 25% owned and which operates in the same industry as Industry A.

Profit contribution and operating profit for Industry C both reflect an unusual charge of $40 before income tax effect for the write-off of obsolete inventory.

Identifiable assets by industry are those assets of the Company that are used exclusively in or are reasonably allocable to operations in each industry. Assets employed at the Company's central administrative office are principally cash and marketable securities.

To reconcile industry information to consolidated amounts, the following eliminations have been made: $700 of intersegment sales; $40 relating to the net intersegment profit contribution and operating profit in beginning and ending inventories; and $50 intersegment operating profit in inventory at December 31, 1976.

Contracts with the U.S. Department of Defense account for $1,100 of the sales to unaffiliated customers of Industry B.
EXHIBIT C

X Company

Information about the Company's Operations in Different Industries
Year Ended December 31, 1976

<table>
<thead>
<tr>
<th>Industry</th>
<th>Industry</th>
<th>Industry</th>
<th>Other</th>
<th>Eliminations</th>
<th>Consolidated</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales to unaffiliated customers</td>
<td>$1,000</td>
<td>$2,000</td>
<td>$1,500</td>
<td>$200</td>
<td>$4,700</td>
</tr>
<tr>
<td>Intersegment sales</td>
<td>200</td>
<td></td>
<td>500</td>
<td>(700)</td>
<td></td>
</tr>
<tr>
<td>Total revenue</td>
<td>1,200</td>
<td>2,000</td>
<td>2,000</td>
<td>200</td>
<td>4,700</td>
</tr>
<tr>
<td>Directly Traceable costs and expenses</td>
<td>(800)</td>
<td>(1,560)</td>
<td>(1,200)</td>
<td>(100)</td>
<td>660</td>
</tr>
<tr>
<td>Equity in net income of Z Co. (25% owned)</td>
<td>.100</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Profit Contribution</td>
<td>500</td>
<td>440</td>
<td>800</td>
<td>100</td>
<td>(40)</td>
</tr>
<tr>
<td>Allocated operating costs and expenses</td>
<td>(200)</td>
<td>(150)</td>
<td>(200)</td>
<td>(50)</td>
<td>(600)</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>300</td>
<td>290</td>
<td>600</td>
<td>50</td>
<td>(40)</td>
</tr>
<tr>
<td>Expenses of central administrative office</td>
<td>(20)</td>
<td>(40)</td>
<td>(30)</td>
<td>(10)</td>
<td>(100)</td>
</tr>
<tr>
<td>Interest expense</td>
<td>(30)</td>
<td>(50)</td>
<td>(100)</td>
<td>(20)</td>
<td>(200)</td>
</tr>
<tr>
<td>Income from continuing operations before income taxes</td>
<td>250</td>
<td>200</td>
<td>470</td>
<td>20</td>
<td>(40)</td>
</tr>
<tr>
<td>Income taxes</td>
<td>(110)</td>
<td>(70)</td>
<td>(230)</td>
<td>(10)</td>
<td>20</td>
</tr>
<tr>
<td>Income from continuing operations</td>
<td>140</td>
<td>130</td>
<td>240</td>
<td>10</td>
<td>(20)</td>
</tr>
<tr>
<td>Loss on discontinued operations</td>
<td>(200)</td>
<td></td>
<td></td>
<td></td>
<td>(200)</td>
</tr>
<tr>
<td>Income (loss) before extraordinary gain and before cumulative effect of change in accounting principle</td>
<td>140</td>
<td>(70)</td>
<td>240</td>
<td>10</td>
<td>(20)</td>
</tr>
<tr>
<td>Extraordinary gain</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td>90</td>
</tr>
<tr>
<td>Cumulative effect on prior years of change from straight-line to accelerated depreciation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net income (loss)</td>
<td>$200</td>
<td>$(80)</td>
<td>$220</td>
<td>$10</td>
<td>$(20)</td>
</tr>
<tr>
<td>Identifiable assets at December 31, 1976</td>
<td>$2,400</td>
<td>$4,050</td>
<td>$6,000</td>
<td>$1,000</td>
<td>$(50)</td>
</tr>
<tr>
<td>Assets employed at the Company's central administrative office</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,600</td>
</tr>
<tr>
<td>Total assets at December 31, 1976</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$15,000</td>
</tr>
</tbody>
</table>
The Company operates principally in three industries, (A), (B), and (C). Operations in Industry A involve production of (describe types of products and services). Operations in Industry B involve production of (describe types of products and services). Operations in Industry C involve production of (describe types of products and services). Intersegment sales are accounted for by (describe the basis at which intersegment sales are accounted for).

Expenses of the Company's central administrative office have been allocated to industries on the basis of (describe the basis). Interest expense has been allocated to industries on the basis of (describe the basis). Income taxes by industry reflect the estimated amount of income taxes that would have been incurred had each industry filed a separate income tax return.

The Company's equity in the net income of Z Co. has been included in determining profit contribution and operating profit for Industry A because Z Co. operates in that industry.

Profit contribution and operating profit for Industry C both reflect an unusual charge of $40 before income tax effect for the write-off of obsolete inventory.

Identifiable assets by industry are those assets of the Company that are used exclusively in or are reasonably allocable to operations in each industry. Assets employed at the Company's central administrative office are principally cash and marketable securities.

To reconcile industry information to consolidated amounts, the following eliminations have been made: $700 of intersegment sales; $40 relating to the net intersegment profit contribution and operating profit in beginning and ending inventories; and $50 intersegment operating profit in inventory at December 31, 1976.

Contracts with the U.S. Department of Defense account for $1,100 of the sales to unaffiliated customers of Industry B.
EXHIBIT D

X Company
Information about the Company's Operations in Different Countries
Year ended December 31, 1976

<table>
<thead>
<tr>
<th>United States</th>
<th>Country A</th>
<th>Country B</th>
<th>Eliminations</th>
<th>Consolidated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales to unaffiliated customers</td>
<td>$3,000</td>
<td>$1,000</td>
<td>$700</td>
<td>$4,700</td>
</tr>
<tr>
<td>Intercountry sales within the Company</td>
<td>1,000</td>
<td></td>
<td></td>
<td>$(1,000)</td>
</tr>
<tr>
<td>Total revenue</td>
<td>$4,000</td>
<td>$1,000</td>
<td>$700</td>
<td>$(1,000)</td>
</tr>
<tr>
<td>Profit contribution</td>
<td>$1,100</td>
<td>$500</td>
<td>$200</td>
<td>$(200)</td>
</tr>
<tr>
<td>Operating profit</td>
<td>$900</td>
<td>$400</td>
<td>$100</td>
<td>$(200)</td>
</tr>
<tr>
<td>Expenses of central administrative office</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest expense</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income from continuing operations before income taxes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working capital at December 31, 1976</td>
<td>$2,400</td>
<td>$800</td>
<td>$550</td>
<td>$(150)</td>
</tr>
<tr>
<td>Property, plant and equipment</td>
<td>$6,200</td>
<td>$3,800</td>
<td>$2,100</td>
<td></td>
</tr>
<tr>
<td>Less accumulated depreciation</td>
<td>1,900</td>
<td>1,100</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Net at December 31, 1976</td>
<td>$4,300</td>
<td>$2,700</td>
<td>$1,600</td>
<td></td>
</tr>
<tr>
<td>Identifiable assets at December 31, 1976</td>
<td>$7,700</td>
<td>$3,400</td>
<td>$2,450</td>
<td>$(150)</td>
</tr>
<tr>
<td>Assets employed at the Company's central administrative office</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total assets at December 31, 1976</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Intercountry sales within the Company are accounted for by (describe the basis at which intercountry sales are accounted for). Profit contribution is total revenue less directly traceable costs and expenses. Operating profit is profit contribution less allocated operating costs and expenses. In computing both profit contribution and operating profit, none of the following items has been added or deducted:
expenses incurred by the Company's central administrative office (located in the United States), income taxes, interest expense, loss from discontinued operations of West Coast division (which was part of the Company's U.S. operations), extraordinary gain (which relates to the Company's operations in Country B), and the cumulative effect of the change from straight line to accelerated depreciation (which relates entirely to the Company's operations in the U.S.).

Profit contribution and operating profit for the United States include the Company's equity in the net income of Z Co. and reflects an unusual charge of $40 before income tax effect for the write-off of obsolete inventory.

Identifiable assets are those assets of the Company that are used exclusively in or are reasonably allocable to operations in each country. Assets employed at the Company's central administrative office are principally cash and marketable securities.

Of the $3,000 U.S. sales to unaffiliated customers, $1,200 were export sales, principally to Country C.
APPENDIX C

SURVEY DATA ON AUDIT OF SEGMENTED FINANCIAL STATEMENTS

<table>
<thead>
<tr>
<th>Common cost allocations?</th>
<th>Total Responses</th>
<th>Certified Financial Analysts</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Yes</td>
<td>176</td>
<td>82.6</td>
<td>142</td>
</tr>
<tr>
<td>No</td>
<td>37</td>
<td>17.4</td>
<td>27</td>
</tr>
<tr>
<td>Totals</td>
<td>213</td>
<td>100.0</td>
<td>169</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use of intra-company pricing?</th>
<th>Total Responses</th>
<th>Certified Financial Analysts</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Yes</td>
<td>155</td>
<td>73.5</td>
<td>124</td>
</tr>
<tr>
<td>No</td>
<td>56</td>
<td>26.5</td>
<td>44</td>
</tr>
<tr>
<td>Totals</td>
<td>211</td>
<td>100.0</td>
<td>168</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Definition of segments for reporting purposes?</th>
<th>Total Responses</th>
<th>Certified Financial Analysts</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Yes</td>
<td>160</td>
<td>78.0</td>
<td>131</td>
</tr>
<tr>
<td>No</td>
<td>45</td>
<td>22.0</td>
<td>32</td>
</tr>
<tr>
<td>Totals</td>
<td>205</td>
<td>100.0</td>
<td>163</td>
</tr>
</tbody>
</table>

Source: Mautz ([52], p. 310.)
### TABLE 2

Public Accountants' overall attitude toward provision of additional information on some segmental basis.

<table>
<thead>
<tr>
<th>Overall attitude</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Strongly favourable</td>
<td>6</td>
<td>26%</td>
</tr>
<tr>
<td>2. Favourable</td>
<td>14</td>
<td>61%</td>
</tr>
<tr>
<td>3. Neutral</td>
<td>2</td>
<td>9%</td>
</tr>
<tr>
<td>4. Opposed</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>5. Strongly Opposed</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>23</td>
<td>100%</td>
</tr>
</tbody>
</table>

### TABLE 3

Auditors' views on the usefulness of segment disclosure to shareholders and investors.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you think that shareholders and investors are able to make better decisions on the basis of additional disclosure (on some basis more detailed than the total company)?</td>
<td>17</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2. Do you think that shareholders' and investors' confidence in segment disclosure will be enhanced if such disclosure is accompanied by the auditor's opinion?</td>
<td>17</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
### TABLE 4

Public Accountants' views on auditing of segmental information.

<table>
<thead>
<tr>
<th>Information proposed to be audited</th>
<th>Yes</th>
<th>No</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Segment sales revenue</td>
<td>22</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>2. Segment contribution margin</td>
<td>21</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3. Segmented net profit before tax (i.e. after allocating common costs to individual segments)</td>
<td>13</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>4. Segmented net profit after tax</td>
<td>12</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>5. Segmented balance sheet</td>
<td>11</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>6. Segmented funds statement</td>
<td>11</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

### TABLE 5

Problems expected to be encountered in the audit of segmental information.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Auditors' responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>1. Additional work involved</td>
<td>22</td>
</tr>
<tr>
<td>2. Arbitrary methods of allocating common costs among segments</td>
<td>20</td>
</tr>
<tr>
<td>3. Pricing of intra-company transfers</td>
<td>18</td>
</tr>
<tr>
<td>4. The existing language/wording of the audit report does not cover the examination of segment disclosure</td>
<td>16</td>
</tr>
<tr>
<td>5. Lack of relevant auditing standards</td>
<td>2</td>
</tr>
<tr>
<td>6. 'Allocation of balance sheet items'</td>
<td>2</td>
</tr>
<tr>
<td>7. 'Possibly a fee problem'</td>
<td>2</td>
</tr>
<tr>
<td>8. 'Lack of standards of reporting'</td>
<td>1</td>
</tr>
<tr>
<td>9. 'Definition of segments'</td>
<td>1</td>
</tr>
<tr>
<td>10. 'Statutory requirements'</td>
<td>1</td>
</tr>
<tr>
<td>11. 'Allocation of tax on segments where some segments are profitable and others unprofitable'</td>
<td>1</td>
</tr>
<tr>
<td>12. 'Time and cost, comparison of trends'</td>
<td>1</td>
</tr>
</tbody>
</table>

Tables 2–5 Source: Mirza ([56], pp. 87–89.)
EXHIBIT 6
U.S.A. SHORT-FORM AUDIT REPORT

To the Board of Directors
XYZ Company:

We have examined the balance sheet of XYZ Company as of December 31, 19__, and the related statements of income and retained earnings and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of XYZ Company at December 31, 19__, and the results of its operations and the changes in its financial position for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Certified Public Accountants
February 26, 19__

Source: Meigs, Larsen and Meigs. ([54], p. 14.)
BIBLIOGRAPHY


N.A.A. Bulletin. 42, 33-43.


Ms. E.A. Stephenson:PP

Mr. R.L. Goodall,
4 Clonarg St.,
Burwood,
VICTORIA. 3225

4th October, 1977

Dear Mr. Goodall,

I am pleased to advise you that the Dean of the Faculty of Economics acting on behalf of its Board of Postgraduate Studies, has approved the award of the Degree of Master of Economics.

The next ceremony of conferring of degrees which you could attend will be held on 13th May, 1978. Alternatively, arrangements can be made for your degree to be conferred "in absentia" at a monthly meeting of the Senate. I would be glad if you would write to me indicating whether you wish your degree to be conferred "in absentia" by the Senate or at the conferring of degrees ceremony in May, 1978.

Yours sincerely,

Kenneth W. Knight
Registrar