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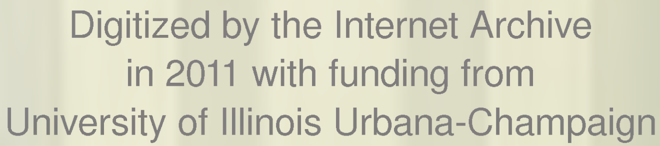
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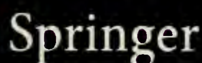

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The International Journal of Accounting

Proposed Revisions of International Accounting Standard No. 21 and their Implications for Translation Accounting in Selected English-Speaking Countries

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Key words: Accounting standards; Translation; Current rate method; Economic environment; Hyperinflation; Financial reporting; International harmonization

Abstract: *On January 1, 1989 the International Accounting Standards Committee (IASC) published proposals to eliminate most of the choices of accounting treatments permitted under existing IASs, including the translation standard, IAS 21, Accounting for the Effects of Changes in Foreign Exchange Rates. Proposed revisions to the translation standard were put forth in E44, The Effects of Changes in Foreign Exchange Rates. E44 differentiates between "foreign operators that are integral to the operations of the reporting enterprise" and "foreign entities" which are essentially self-contained and function mainly within the foreign environment and employ the local currency for accumulation of cash and other monetary items, incurrence of expenses, realization of revenues and arrangement of borrowings. Also, E44 differentiates between non-hyperinflationary and hyperinflationary foreign environments and specifies different accounting translation methods for foreign operations in these types of economic environments. If adopted as proposed, or largely so, E44 has potential for significant impact upon those who voluntarily comply with its provisions. To determine the potential impact of E44, the authors have analyzed the translation accounting standards of the United States, Canada, the United Kingdom, Australia, and New Zealand. During the decade of the 1980s into the 1990s there has evolved a broad consensus among the foreign currency translation standards of the IASC and those of English-speaking countries examined for this study. All of the standards examined, excluding New Zealand's, differentiate between foreign operations in non-hyperinflationary and hyperinflationary economies, and between independent and integrated foreign operations. Despite broad consensus regarding the need for an eclectic approach to foreign currency translation and*

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rather similar solutions to the general problems involved in the translation, there are many differences between the standards examined. These differences can cause great variation in the results of foreign entity translation, inhibit comparison, and complicate decision-making. Thus, the IASC is on the proper track with its harmonization project and its efforts to reduce the allowable alternative accounting treatments. With respect to E44, it is appropriate to note that it is an improvement over IAS 21, but it could itself be improved further.

Organized in 1973, the International Accounting Standards Committee (IASC) issued 28 International Accounting Standards (IASs) by January 1, 1989. To gain acceptance of its early standards the IASC permitted various free choices of alternative accounting treatments. Responding to the need for truly international accounting standards and for new standards for topics not covered by existing IASs to satisfy the requirements of increasingly internationalized business and capital markets, in March 1987 the IASC Board created a steering committee to consider whether to end certain acceptable alternative accounting treatments in IASs or to indicate preferred treatments.

On January 1, 1989, the IASC published proposals to eliminate most of the choices of accounting treatments presently permitted under IASs. The proposals are published in Exposure Draft 32 (E32), *Comparability of Financial Statements*; they seek to establish that similar transactions and events are accounted for in the same manner, wherever they are reported in the world. Among the standards for which revisions were proposed was the translation standard, IAS 21, *Accounting for the Effects of Changes in Foreign Exchange Rates*.

Translation refers to the process of restating in terms of the parent company's domestic currency the assets, liabilities, revenues, and expenses of its foreign operations which have been stated of quantified in foreign currency units. To prepare consolidated financial reports, the translation process is an essential step to the presentation of financial position and economic results in common monetary units.

A number of translation methods have commonly been used, including the current–noncurrent, monetary–nonmonetary, temporal and current rate methods. In deciding which method, or combination of methods, to employ for translation accounting, various perspectives are possible. At opposite poles of the continuum are the single unit of measure approach, i.e. all elements of consolidated financial statements are to be measured in home currency units, versus a multiple unit approach to reflect in consolidated statements the financial results of individuals consolidated operations as measured in their respective operative (functional) currencies in conformance with home country generally accepted accounting principles. The single unit of measure approach has led to the position that a single currency translation method was appropriate for all circumstances, despite differences in foreign environments and the characteristics of individual foreign operations. The functional currency approach relies upon multiple currency measurements to capture the economic circumstances and net asset positions of foreign operations by preservation of the underlying financial statement relationships in translated form.

The IASC has elected the multiple currency approach in its revisions of IAS 21 as put forth in Exposure Draft 44 (E44), *The Effects of Changes in Foreign Exchange*

Rates. E44 deals with (1) accounting for transactions in foreign currencies; and (2) translating the financial statements of foreign operations for consolidation purposes. E44 differentiates between "foreign operations that are integral to the operations of the reporting enterprise" and "foreign entities" which are essentially self-contained and function mainly within the foreign environment and employ the local currency for accumulation of cash and other monetary items, incurrence of expenses, realization of revenues, and arrangement of borrowings.[1] Also, E44 differentiates between non-hyperinflationary and hyperinflationary foreign environments and specifies different accounting translation methods for foreign operations in these types of economic environments.[2]

If adopted as proposed, or largely so, E44 has potential for significant impact upon those who voluntarily comply with its provisions. Voluntary compliance is essential as the IASC has no enforcement powers.

To determine the potential impact of E44, the authors have analyzed the translation accounting standards of the United States, Canada, the United Kingdom, Australia, and New Zealand. They have examined similarities and noted differences between E44, IAS 21, and the respective translation standards of English-speaking countries. Schedules have been developed to illustrate the differences found and the potential impact of E44 upon translation accounting in these countries if they were to voluntarily follow the IASC's lead.

The paper presents the results of the study and the authors' assessment of the proposed translation standard's contribution to translation accounting in those countries. While all of the countries studies employ some variation of the current rate method, there are significant variations within each, and between them and E44. This is especially pronounced in the realm of translation of foreign entity operations in hyperinflationary countries.

Foreign Currency Translation Models

For the past three decades, the number of multinational firms has risen dramatically. These firms face a unique set of accounting challenges. They are confronted with conflicting accounting standards, tax laws, and philosophies on management between the countries in which they operate. "This has been called a problem, as international diversity in national accounting principles has the potential to diminish the international flow of investment capital, and thus economic development and efficient international allocation of resources will be stymied as well" (Evans et al., 1988, p. 85).

The IASC has given considerable attention to the formulation and development of international accounting standards. One of the main goals of the IASC is to encourage companies to comply voluntarily with IASC standards which will enhance the degree of harmonization in accounting between countries as well as maintain a degree of comparability between the subsidiaries' and their parent's financial statements, thus, emphasizing the relevance and usefulness of accounting information. This, in turn, will aid both internal and external economic decision-making and the reporting of financial operations.

Foreign currency translation is a critical accounting practice that needs to be harmonized. Foreign operations can be entered into in two ways: through transactions denominated in a foreign currency, and through operating branches or subsidiaries in foreign countries. Both require translation. Generally, foreign currency transactions are translated at the rate in effect at the time the transaction takes place. Transaction gains or losses occur when an item is translated at a rate in effect at the time the transaction takes place. Transaction gains or losses occur when an item is translated at a rate different from the one used when it was originally recorded, such as when a loan agreement is recorded and settlement is to be made 90 days later. Usually, these gains or losses on transactions are taken to the income statement.

When a firm operates a subsidiary or branch abroad, statements must be consolidated. Consolidation of financial statements for materiality related firms is a common practice among many nations. Before statements can be consolidated they must be expressed in the same language, currency, and use the same accounting concepts. There are different approaches used for translating the statements into currency of the domestic parent.

Translation is the re-expression of a statement into another language and currency. There are three possible exchange rates to be used for the translation: historical, average, or current. The historical rate would be the rate in effect on the date the underlying transaction took place. The average rate can be a weighted average for the time period, or an average for each segment of the time period, which is related to the respective transactions for each segment. The current rate is the closing rate as of the date of the financial statements.

There are four main models used to translate the accounting statements; they are the current–noncurrent model, the monetary–nonmonetary model, the temporal model, and the current (or closing) rate model.[3] Generally, across all models the income statement is translated at the current rate or an average rate for the period. The exceptions to this are the cost of goods sold and depreciation expense whose translation will depend on the method used. Stockholder's equity is usually translated at historical rates.

The current–noncurrent model classifies the accounts according to their balance sheet classification. Current assets and liabilities are translated at the current rate. Noncurrent asset and liabilities are translated at their historical rates. The cost of goods sold is translated at the current rate and depreciation expense is restated at a historical rate. This method has been criticized by Chambers (1983, p. 15) for being based on the invalid assumption that inventory will suffer the same degree of foreign exchange risk of loss that holding cash would incur. The current exchange rate can be very volatile and cash is more susceptible to these fluctuations than inventory is. Choi (1982) argued that this balance sheet classification is unjustified as different items are not exposed to the same level of exchange risks. But Nobes (1980) has pointed out that this model has been incorrectly criticized since gains and losses on noncurrent items are not recognized in earnings. According to Nobes, this is incorrect because the gains and losses are likely to reverse and should, therefore, not be recognized in income as it would create unrealistic volatility. This model is fairly simple to use as the assets and liabilities are already categorized on the balance sheet.

The monetary–nonmonetary model is very similar to the current–noncurrent model. Monetary assets and liabilities are translated at the current rate. Nonmonetary assets

and liabilities are translated at historical rates. Monetary assets and liabilities are defined as "[those] that are expressed in a fixed number of currency units" (Evans et al. 1988, p. 169). Those that do not fit this description are classified as nonmonetary. Cost of goods sold and depreciation expenses are restated at historical rates. This method of translation has been accused of distorting profit margins since an average rate is used to translate sales and a historical rate is used for cost of goods sold (Choi, 1982).

A third method of translation is the temporal method. This model determines the exchange rate to be used according to the measurement base underlying the balance sheet item. Items based on the past exchange price are translated at the current rate. Cost of goods sold and depreciation expenses are translated at their historical rates. Translation gains and losses are included in the computation of net income. Nobes cited a major argument against this model: "foreign subsidiaries do not exist mainly in order to make remittances to parents. A foreign subsidiary is a separate entity and it is only its net worth which is at risk, not each individual balance" (1980, p. 426). This model also carries similar criticisms as the monetary–nonmonetary model (Choi, 1982). However, it has been acclaimed as giving the best indication of real performance as it "does not distort the underlying accounting principles so that consolidation can take place on a consistent basis" (Nobes, 1980, p. 425).

The final model is the current rate model. This is the earliest model to use as all asset and liability items on the balance sheet are translated at the current rate. The income statement is translated first, then the balance sheet is translated, except for retained earnings. Retained earnings are calculated as if the company were domestic. The beginning balance plus the net income equals the ending balance. Translation gains and losses are included in the balance sheet to equate the two sides. Another benefit to this model is that it does not alter the balance sheet ratios, as would be the result of using different rates for balance sheet items. This method has been criticized to the extent that it "violates the basic purpose of consolidated financial statements, which is to present results of operations and financial position of a parent and its subsidiaries as if they were all a single entity" (Choi, 1982, p. 2). Choi also argued that this model presumes that all local currency assets and liabilities are exposed to the same amount of exchange risk, which is seldom the case.

These translation models are summarized in Table 1. A common criticism of the above models is that they fail to take into account inflation incurred in the locality of each subsidiary (Hall and Snavely, 1984). This comment can be countered by the argument that exchange rates are impacted by a country's inflation rate and, thus, already, incorporate any effect caused by inflation.

Purpose of Present Research

These four translation models, either in pure or in hybrid form, either individually or in some combination, have been used as the underpinning of corporate, national, and international translation practices and/or standards. In 1980, Nobes reviewed the translation debate in the United States, through FAS 8 of 1975, in the United

Table 1. Comparison of translation models

	Translation model used[a]			
Balance sheet items	Current–noncurrent	Monetary–nonmonetary	Temporal	Current
Cash	C	C	C	C
Current receivables	C	C	C	C
Inventories				
Cost	C	H	H	C
Market	C	H	C	C
Prepaid items	C	H	H	C
Investments				
Cost	H	H	H	C
Market	H	H	C	C
Fixed assets	H	H	H	C
Other assets	H	H	H	C
Current payables	C	C	C	C
Long-term debt	H	C	C	C
Contributed capital	H	H	H	H
Retained earnings	X	X	X	X
Income Statement Items				
Cost of goods sold	C	H	H	C or A
Depreciation expense	H	H	H	C or A

[a]Where
C = current rates
H = historical rates
A = average rates
X = residual, balancing amount representing a composite of successive current rates.

Adapted from: Frederik D.S. Choi and Gerhard G. Mueller. *International Accounting* (2nd edn.), Englewood Cliffs, NJ: Prentice-Hall, 1992, p. 148; and Thomas G. Evans, Martin E. Taylor, and Oscar Holzman. *International Accounting and Reporting*, Boston: PWS-Kent, 1988, p. 170.

Kingdom, through ED27 of 1980, and in the IASC, through E11 of 1980. Since Nobes' (1980) review, there have been many developments on the translation front. To mention just a few, FAS 8 was superseded, in 1981, by FAS 52 in the United States; the United Kingdom, in 1983, adopted SSAP 20 to regulate foreign currency translation; and the IASC adopted IAS 21 in January 1985. Throughout the decade of the 1980s there have been several national and international efforts to specify acceptable foreign currency translation standards. These efforts have been eclectic, pragmatic steps to deal with the practical problems encountered in translation accounting. Certain trends are evident, but there remain pronounced national and international differences.

The purpose of this paper is to examine the foreign currency translation standards of selected English-speaking countries, and those present and proposed by the IASC. The countries whose translation standards are studied are Australia, Canada, New Zealand, the United Kingdom, and the United States. The aim of the study is to compare and contrast these standards to discern the degree of harmonization between countries and the IASC and to shed light on the prospects for harmonization in this area in the future. (See the Appendix for a list of the standards examined, their effective (or issue) dates, and the relevant standard-setting bodies.)

Conceptual Issues

In 1977, Patz observed that the problem of translating foreign accounts is "an information choice problem" to which there are two plausible theoretical approaches: a measurement approach and a restatement approach. Patz argued that the measurement approach to translation involves a strong parent (or proprietary) perspective; essentially the foreign subsidiary exists to provide sources of domestic currency cash flows to the domestic parent: "The proprietary theory of measurement approach ... leads to the extension of the boundaries of the parent and its standard of measurement to include the foreign operations." Foreign operations are measured in terms of a domestic perspective and according to a domestic standard: "[T]he risk of destroying information gathered with and relating to the local perspective, local utility and local relationships, is justified in obtaining the assumed more relevant (parent) measures" (pp. 316–317).

To the other approach – the restatement approach – Patz applies the synonym "entity theory." In this approach, "local position and success in local operations, is seen as the appropriate focal point for periodic reporting." The pretranslation, local measurements capture important information and relationships with respect to an operating environment vastly different from the domestic environment, that in which the bundle of foreign costs was used, and will continue to be used. The proper direction for translation is restating existing local information – local command over goods and services – intact. Success in domestic terms depends upon, and is prefaced by, foreign successes: "The need to preserve the existing pre-translation phase significance of the foreign accounting measures, the local perspective, is seen as an overriding consideration" (p. 319).

Of the four translation models discussed above, the temporal model most clearly typifies the measurement approach. In fact, Lorenson, the best-known spokesman for the temporal method, in ARS 12, wrote "The temporal principle was developed ... from a definition of translation as a measurement conversion process in which the unit of measurement is changed in the financial statements of foreign subsidiaries from one defined in terms of foreign money to one defined in terms of US dollars (i.e., domestic money)" (1972, p. 47). In the United States, it was embodied in FAS 8. It is essentially a one currency approach.

On the other hand, the current model encompasses the restatement approach in that is preserves intact the fundamental interrelationships between assets and liabilities on the balance sheet, and between the income statement and balance sheet post-translation. In the early 1980s, it was adopted by the Financial Accounting Standards Board (FASB) in FAS 52, which superseded FAS 8. In its statement of translation objectives, the FASB indicated that it wished to accomplish the following:

(a) Provide information that is generally compatible with the expected economic effects of a rate change on an enterprise's cash flows and equity.

(b) *Reflect in consolidated statements the financial results and relationships of the individual consolidated entities as measured in their functional (i.e. operative local) currencies in conformity with US generally accepted accounting principles* (para. 4) (italics added).

The restatement approach is essentially a multiple-currency approach.

Paradoxically, Patz's two theoretical approaches to translation remain an integral part not only of US translation practices but also of those of Australia, Canada, the United Kingdom and the IASC. They also apply to New Zealand – however, in a different manner.

All the standards studied – present and proposed – distinguish between foreign subsidiaries which are largely independent, autonomous entities and those which are deemed to be integrated foreign operations of the parent. The standards examined put forth a mix of translation models to be employed by the reporting entity in different circumstances. Tied into the discussion of which model is appropriate is the fundamental determination of the underlying economic environment in which the foreign subsidiary operates. Where the foreign environment is *not* hyperinflationary, the distinction must be made between translating the activities of independent operations and those integrated operations. For independent operations, the restatement approach is specified as appropriate, usually the current model (in the United Kingdom, it is called the closing rate/net investment method). For integrated operations, the measurement approach is typically indicated as appropriate , usually the temporal model (in New Zealand, the monetary–nonmonetary model is used) (see Fig. 1).

Where the foreign environment is deemed to be hyperinflationary, there is far less agreement as to the appropriate method to be employed in translation. Australia, the United Kingdom, and the IASC prescribe restatement to capture the upward hyperinflationary movement of prices followed by translation using the appropriate model based upon whether the foreign operation is independent or integrated. The United States and Canada specify the temporal method to be applied to foreign operations, both independent and integrated, located in hyperinflationary environments. New Zealand's translation standard does not mention hyperinflation.

Thus, in translating foreign financial statements, attention is paid to the appropriate translation approach to apply based upon the character of the foreign operation and its economic environment. However, as noted above, there is another side to the translation issue: the translation of foreign currency transactions, which is dealt with in the next section of the paper.

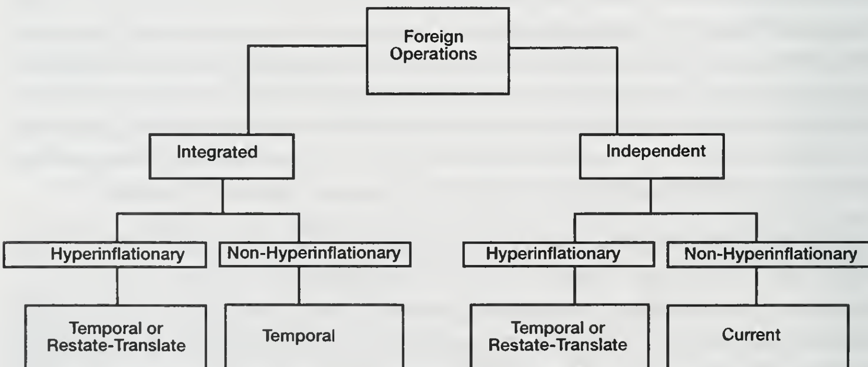

Fig. 1. Determination of applicable translation model.

Accounting for Foreign Currency Transactions

Regardless which approach – measurement or restatement – is deemed appropriate for financial statement translation, the measurement approach is taken to the translation of foreign currency transactions. For example, in the standards examined, transactions are initially recorded at spot rates, i.e. transaction date current rates, or approximations thereof. Transaction gains and losses arise from changes in relative exchange rates between the transaction date and the settlement date or balance sheet date, or between the previous balance sheet date and either the settlement date or the current balance sheet date. Unless hedged, these gains and losses usually are taken to income in the appropriate period(s) (see Table 3). Thus, the cash flow implications of foreign exchange movements for the domestic parent are carried directly to income (profit and loss account) in the period in which they are recognized, whether realized or not. Exceptions to this general rule are permitted for foreign exchange gains and losses on long-term items by IAS 21, Canada's AR 1650 and Australia's AAS 20. (IASC E44 makes no mention of the alternative treatment.) IAS 21 specifies that "such exchange differences may be deferred and recognized in income of current and future periods on a systematic basis over the remaining lives of the monetary items to which they relate" unless recurring exchange losses are expected (para. 28). The Australian standard requires such differences to be included in the cost of qualifying assets, i.e. self constructed assets under construction for the use of the firm itself, or for another firm (paras. 3(m)(i) and (ii), 13, and 51). Canada's AR 1650 requires that exchange gains and losses of the reporting enterprise "relating to the translation of foreign currency denominated monetary items that have a fixed or ascertainable life extending beyond the end of the following fiscal year should be deferred and amortized on a systematic and rational basis over the remaining life of the monetary item" (para. 23). To illustrate, examples are presented below employing the exchange rates in Table 2.

Example 1 illustrates the effects of the Canadian exception. In this illustration there are two Canadian companies, each with a long-term monetary loan valued at 37 000 French francs. Company A knows that the life of the monetary asset is five years, and under AR 1650 would amortize the loss of C$1065. The company would report a loss in the present year's income statement of C$213. For Company B the monetary item does not have a fixed or ascertainable life; thus it would include the entire loss in the determination of current income. Company B would incur a loss in the present year of C$1065. The difference in income between the two companies is a negative C$852, yet they maintain the same foreign currency and employ the same translation model: the current method. The treatment Company A accords the deferral of the exchange loss is sanctioned by IAS 21 but would not be permitted by E44.

Table 2. Exchange rates used for examples

Closing rates		*Average rates*		*Historical rates*	
1FF = 0.2523	A$	1FF = 0.2541	A$	1FF = 0.2120	A$
1FF = 0.1018	£	1FF = 0.1025	£	1FF = 0.1073	£
1FF = 0.2262	C$	1FF = 0.2369	C$	1FF = 0.1947	C$
1FF = 0.3479	NZ$	1FF = 0.3459	NZ$	1FF = 0.2791	NZ$
1FF = 0.1894	US$	1FF = 0.1947	NS$	1FF = 0.1731	US$

Example 1. Deferral of exchange loss on long-term monetary items following AR 1650

	Canadian company A			Canadian company B	
Value of debt	37 000	FF		37 000	FF
Carrying value at historical rate 1FF = C$ 0.1974)	7 304	C$		7 304	C$
New Value at current rate (1FF = C$ 0.2262)	8 369	C$		8 369	C$
Loss	1 065	C$		1 065	C$
Amortize	÷ 5 years				
(Loss) for year 1	(213	C$)		(1 065	C$)
Difference between company A and B			(852 C$)		

Also, alternative treatments to the initial recording of transactions are permitted by IAS 21, New Zealand's SSAP 21, and the United Kingdom's SSAP 20. When the transaction is short term in nature and covered by a forward contract, IAS 21 and NZ SSAP 21 permit use of the contract rate to record this transaction. (Note E44 makes no mention of this alternative treatment.) The United Kingdom's SSAP 20 permits use of the forward contract rate but does not restrict it to short-term transactions covered by a hedge.

Forward contract discounts (or premiums) are to be recognized as income (gain) or expense (loss) over the contract life according to IAS 21, E44, Australia's AAS 20, and the United States FAS 52. Treatment for such discounts (premiums) is not mentioned in the Canadian, New Zealand, or UK standards. In practice, some UK companies adopt the FAS 52 approach to account for forward contract discounts (or premiums) (Ernst and Young, 1990, pp. 114–115).

Hedging is action taken, such as entering into a foreign currency contract or otherwise, with the objective of avoiding or minimizing unfavorable economic effects of exchange rate movements. Ideally, the exchange rate movement effect on the hedge should exactly offset the opposite effect of the exchange rate movement on the hedged item. All of the standards examined require that the hedge be identified and function as such. Generally, foreign exchange gains and losses on liability hedges of net investments are to be included in equity. IAS 21 requires that such exchange differences "be taken to shareholders" interest to the extent that they are covered by exchange differences on the net investment" (para. 30). E44 specifies that the deferred exchange differences should be recognized as income or expense "on the disposal of the net investment in the foreign entity" (para. 23 (a)). The national standards of Australia and New Zealand require their inclusion in a foreign currency translation reserve; the UK standard requires that they be included in reserves without designating a specific reserve account. The Canadian standard stipulates their inclusion as a separate component of shareholders' equity; and the US standard, FAS 52, calls for their inclusion in the cumulative translation adjustment equity account. (For the recommended treatment of other types of hedge, see Table 3.)

Intercompany monetary items are subject to foreign exchange gains and losses which if carried to income could cause significant fluctuations. However, if the monetary item qualifies as an extension of the parent's net investments in an independent foreign operation, a rationale can be given for the deferral of recognition of such unrealized gains and losses so long as the net investment is maintained; instead they may be accumulated in an owners's equity account. All of the standards examined differentiate between intercompany monetary items involving independent and integrated foreign operations. In the case of an independent foreign operation, such foreign exchange gains and losses typically are taken to an owner's equity "reserve" account. In the case of an integrated foreign operation, such foreign exchange gains and losses receive the same treatment as those involving unrelated third parties, i.e. the gains and losses are taken to income in the appropriate period(s).

To illustrate further, assume there are two New Zealand subsidiaries located in France (see Example 2). One is integrated with its parent, the other is independent. Further assume that both firms carry intercompany monetary loans worth 42 000 French francs at their historical rate. Upon translation of the debt the current rate is used, creating a translation loss of NZ$2890. The integrated company must expense this against income during the present year. The independent company takes the loss to a reserve account. Effectively, the integrated company has NZ$2890 less net income than that of the independent company.

IAS 21 and E44 suggest treatments for severe devaluations in a currency against which there is no viable means to hedge. IAS 21 specifies adjusting the carrying amount of the related recently acquired assets which gave rise to the affected liabilities up to "the lower of replacement cost and the amount recoverable from the use or sale of the assets" (para. 31). E44 would alter this treatment to an allowed alternative; in its place, it substitutes as its recommended benchmark treatment the recognition of the devaluation loss in the current period's income (paras. 11, 12, 30, and 31). Australia's AAS 20, which requires capitilization of exchange differences for qualifying assets, "does not include a permissive clause such as that cited from IAS 21," i.e. IAS 21, para. 31, mentioned above (AAS 20, Part A, Comparability with International Accounting Standards IAS 21).

Only the US and Australian translation standards discuss speculative dealing. Each requires that speculative gains and losses be taken to income. The other standards, including the present and proposed IASC standard, are silent on the proper treatment of speculative foreign exchange gains and losses.

For integrated foreign operations, only E44, the US and Australian standards discuss the temporal method for translating inventory valued at lower of cost or market (net realizable value).

Thus, while there are substantial areas of agreement between these standards regarding the treatment of various foreign currency transactions, there remain significant differences. On the one hand, while E44 eliminates most of the alternative translation treatments allowed by IAS 21, in keeping with the objective of its harmonisation project, it introduces two allowed treatments for severe devaluation currency losses. On the other hand, E44 provides rather detailed guidelines for translating hedging agreements and in this regard is a distinct improvement over IAS 21 and the translation standards of the English-speaking countries examined.

Table 3. Comparative matrix of various accounting standards covering translation of foreign currency transactions

Issues	International Accounting Standards Committee IAS 21	E44
I. Initial recording of transaction	Spot rate or approximation	Spot rate or approximation
Exception: short-term transaction covered by forward contract	Contract rate	NM
II. Forward contract discount (or premium)	Recognize in income over contract life	Income (expense) over contract life
Exception: Short-term forward contract	Include in measurement base of covered item	NM
III. Recognition of exchange differences		
A. Transaction gains and losses:		
1. (a) short-term settled within one year	I/S of year settled	I/S of year settled
(b) short-term *not* settled within one year	I/S of related years	I/S of related years
2. long-term	I/S normally of several years	I/S of several years
Exceptions	Deferral and systematic recognition over time	NM
B. Hedging transactions	Identify	Identify
1. Treatment of exchange gains and losses		
(a) liability hedge of net investment in independent entity	Shareholders' interest	Deferred (presumably in equity), until disposal of net investments
(b) monetary hedge of unrecognized monetary item	NM	Recognize in income when hedged items differences are recognized
(c) liability hedge of non-monetary item	NM	Recognize in income when asset is sold
(d) specific commitment	NM	NM
(e) other types of hedges indicated	NM	NM
C. Intercompany monetary items		
1. intercompany profits	Eliminate	Eliminate
2. if part of parent's net investments in a foreign entity	Shareholders interest	Equity until disposal of net investment
3. otherwise	See III.A.1 and 2 above	See III.A.1 and 2 above
D. Severe devaluation		
1. benchmark treatment	Adjust carrying amount of related asset	Recognize on period's I/S
2. alternative treatment	NM	adjust carrying amount of related assets
E. Speculative dealing	NM	NM
F. Lower of cost or market (NRV) treatment indicated	NM	Yes

Abbrevaition: NM, not mentioned in standard; I/S income statement (in Australia, New Zealand, and the United Kingdom the term "Profit and loss account" is used to refer to the income statement)

Table 3. continued

Australia	Canada	New Zealand	UK	USA
Spot rate	Spot rate	Spot rate, or approximation	Spot rate, or average, contracted, or forward contract rate	Spot rate
NM	NM	Contract rate	NM	NM
Gain (cost over contract life	NM	NM	NM	Gain (loss) over contract life
NM	NM	NM	NM	NM
I/S of year settled	I/S of year settled	I/S of year settled	I/S of year settled	I/S of year settled
I/S of related years	I/S of related years	I/S of related years	I/S of related years	I/S of related years
I/S of related years	I/S of related years	I/S of related years	I/S of related years	I/S of related years
Qualifying (or self-constructed) assets require inclusion in cost	Monetary items with fixed (or determinable) lives require deferral and amortization	NM	NM	NM
Identify	Identify	Identify	Identify	Identify
Foreign currency translation reserve	Separate component of shareholders equity	Foreign currency transaltion reserve account	Reserves	Cumulative translation adjustment equity account
NM	NM	NM	NM	NM
NM	NM	NM	NM	NM
Include deferred costs in measurement base	Include deferred costs in measurement base	Include deferred costs in measurement base	NM	Include deferred costs in measurement base
Yes	Yes	Yes	NM	NM
NM	Eliminate	NM	NM	Eliminate
Foreign currency translation reserve	Separate component of Shareholders equity	Foreign currency translation reserve	NM	Cumulative translation adjustment equity account
See III.A.1 and 2 above	See III.A.1 and 2 above	See III.A.1 and 2 above	See III.A.1 and 2 above	See III.A.1 and 2 above
Not permitted	NM	NM	NM	NM
NM	NM	NM	NM	NM
Net gain (loss) taken to in I/S	NM	NM	NM	Gain (loss) included in I/S
Yes	NM	NM	NM	Yes

Example 2. Comparative treatment of intercompany monetary items for integrated versus independent foreign entities

	Integrated		Independent	
Value of debt	42 000	FF	42 000	FF
Carrying value at historical rate (1FF = NZ$ 0.2791)	11 722	NZ$	14 612	NZ$
New value at current rate (1FF = NZ$ 0.3479)	14 612	NZ$	14 612	NZ$
Loss	2 890	NZ$	2 890	NZ$
Impact on statements				
Income statement	(2 890	NZ$)		0
Balance sheet	(2 890	NZ$)	(2 890	NZ$)
	through retained earnings		through reserves	

Translation of Foreign Currency Financial Statements

During the decade of the 1980s there evolved a broad consensus among the translation standards of the English-speaking countries and the IASC as to the issues involved in the translation of financial statements of foreign entities. Areas of consensus include: (1) classification of foreign operations based upon their relationship to the parent as either independent or integrated; (2) classification of the economic environment of the foreign operation as either highly inflationary (hyperinflationary) or not highly inflationary; (3) methods of translation; (4) treatment of translation gains and losses; and (5) disclosures (see Table 4). While this broad consensus apparently was not based upon any coherent body of theory, nor upon any scientific research, it does appear to represent the dissemination of accounting thinking as a result of observation and increased participation in and awareness of various international and national standard-setting efforts and a willingness to learn from and to emulate others' progress.

A recent paper, *Harmonization of International Accounting Standards*, prepared by the International Capital Markets Group (ICMG) of the International Federation of Accountants, noted: "there is an extensive exchange of views between many of the standard setting bodies, and fairly close working relationships have developed." As examples, the ICMG cites: (1) the UK standard-setting body will study other countries' standards and be influenced by them in the development of the new UK standards; (2) the US FASB has set as the overall goal of its international strategy to make financial statements more useful to investors and creditors by concurrently increasing the comparability and quality of accounting standards; (3) European countries will consider EC directives; and (4) IASC and Canadian close cooperation in the development of standards to account for financial instruments (undated, pp. 37–38). While such cooperation and mutual consideration of similar accounting problems did not exist to the same degree throughout the decade of the 1980s that it does today, the similarities in the various national and international translation standards studied suggest that they were not evolved in a national or international vacuum.

Thus, the standards studied, except that of New Zealand, all differentiate between foreign entities located in hyperinflationary and non-hyperinflationary economic environments. There is greater harmony regarding the methods of translation to be employed in non-hyperinflationary situations than in hyperinflationary ones. For foreign operations not located in a hyperinflationary economy, the current method (in the United Kingdom it is called the closing rate/net investment method and has certain unique ramifications) is generally applied to independent operations. FAS 52 – the first translation standard issued in the early 1980s, among those examined – refers to an independent operation as one whose "operations ... are relatively self-contained and integrated within a particular country" and indicates the local currency generally would be the functional currency (para. 6.) While usually avoiding the term "functional currency," the other standards examined regard the local currency as the operative, i.e. functional, currency of foreign entities classified as independent.

Integrated foreign operations operating in non-hyperinflationary economies, in most cases, are to be translated with the temporal method. New Zealand's SSAP 21 is the only exception to this rule; it requires that the monetary–nonmonetary method be applied. This is very similar to the temporal method and differences generally will not occur. The only time differences will occur is when the firm values nonmonetary assets at their market rate or future value. While firms rarely value assets at future values, they sometimes apply the lower of cost or market method. This could result in the use of current market prices for valuing assets.

In hyperinflationary situations there is much less harmony in the translation treatments specified by the various standards examined. IAS 21's benchmark translation method involves restatement (for effects of price level changes) followed by translation. The allowed alternative is the temporal method. E44 would permit only one treatment: restatement (for general purchasing power changes) followed by translation. Australia's AAS 20 calls for restatement (by revaluing non-current, non-monetary assets) followed by translation. The UK's SSAP 20 stipulates translation after restatement (to current price levels). Thus, restate/translate can mean quite different processes depending upon how the restatement itself is to proceed. Both the United States and Canada specify the application of the temporal method. New Zealand's standard is silent on the treatment of foreign operations located in hyperinflationary environments.[4]

While Australia, Canada, the United Kingdom, and the United States all have translation standards for foreign operations in hyperinflationary economies which comply with IAS 21, this will no longer be so should E44 be implemented as proposed. Presently, the United States and Canada adhere to IAS 21's allowed alternative translation method; this alternative is to be eliminated by E44. Should that happen, US and Canadian standard setters will need to revisit this translation issue and to consider steps to bring their respective standards in line with the new international benchmark treatment.

It bears noting that application of the temporal method in hyperinflationary situations is to be made both to independent and integrated foreign operations. This establishes an asymmetry in treatment of independent foreign operations: in non-hyperinflationary economies, the current method is to be applied to them; in hyperinflationary economies, the temporal method is to be applied to them. Whereas,

Table 4. Comparative matrix of various accounting standards covering translation of foreign currency financial statements

Issues	International Accounting Standards Committee IAS 21	E44
I. Foreign operations classified based on relationship to parent	Yes	Yes
II. Foreign operations in hyperinflationary environment accorded unique treatment: Translation method:	Yes	Yes
1. Benchmark	Restate (for effects of price level changes)/ translate	Restate (for general purchasing power changes)/ translate
2. Alternative	Temporal	NM
III. Foreign operations not located in hyperinflationary environment: Translation methods:		
1. Independent operation	Current	Current
2. Integrated operation	Temporal	Temporal
IV. Currency rates used for translation:		
1. Independent operation treatment		
(a) Balance sheet assets and liabilities	Closing rate	Closing rate
(b) Income statement items	Closing rate; transactions dates' rates, or approximate averages	Transaction dates' rates; in hyperinflationary economy use closing rate
2. Integrated operation treatment		
(a) Balance sheet		
(i) Monetary items	Closing rate	Closing rate
(ii) Non-monetary items	Historical rates, or revaluation date rates	Historical rates, or revaluation date rates
(b) income statement items	transaction dates' rates or approximate averages	Transaction dates' rates or approximate averages
V. Translation gains and losses		
1. Independent operation treatment	Shareholders interest	Equity until disposal of net investment
2. Integrated operation treatment	I/S	I/S
VI. Disclosures:		
1. Methods	Yes	NM
2. Deferred exchange differences shown as separate components of assets (liabilities)	Yes	Yes
3. Amounts of exchange gains and losses in earnings	Yes	Yes
4. Factors causing changes in translation reserve	Yes	Yes
5. Post balance sheet major exchange rate changes	NM	Yes

Abbreviations: NM, not mentioned in standard; I/S, income statement (in Australia, New Zealand, and the United Kingdom, the term "Profit and loss account" is used to refer to the income statement).

Table 4. continued

Australia	Canada	New Zealand	UK	USA
Yes	Yes	Yes	Yes	Yes
Yes	Yes	NM	Yes	Yes
Restate (by revaluaing non-current non-monetary assets)/ translate	Temporal	NM	Restate (to current price levels)/ translate	Temporal (i.e. remeasure into functional currency)
NM	NM	NM	NM	N M
Current	Current	Current	Closing rate/net investment	Current
Temporal	Temporal	Monetary/nonmonetary	Temporal	Temporal
Closing rate	Closing rate	Closing rate	Closing rate	Closing rate
Transaction dates' rates; or approximate averages	Transaction dates' rates; or approximate averages	Closing rates	Closing rate, or average rate for period	Transaction dates' rates, or weighted average exchange rates
Closing rate	Closing rate	Closing rate	Closing rate	Closing rate
Historical rates, or revaluation date rates	Historical rates, except items carried at market which require closing rate	Historical rates	Historical rates	Historical rates
Transaction dates' rates or approximate averages	Transaction dates' rates or approximate averages	Transaction dates' rates or approximations	Transaction dates' rates or approximate averages	Transaction dates' rates or weighted average exchange rates
Foreign currency translation reserve	Separate component of shareholders equity until disposal of net investment	Foreign currency translation reserve until disposal of net investment	Reserves	Cumulative translation adjustment equity aaccount until disposal of net investment
I/S	I/S	I/S	I/S	I/S
Yes	Yes	Yes	Yes	Yes
NM	Yes	NM	NM	NM
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
NM	Yes	NM	NM	Yes

integrated foreign operations are to be translated by application of the temporal method, regardless of the character of the foreign economic environment. While the restate/translate approach has its own problems, as noted above, it does not include among them the asymmetry in treatment of the translation of the operations of an independent foreign entity.

The currency rates for translation vary according to the character of the foreign operation – independent or integrated – and the translation method employed. For the balance sheet assets and liabilities of independent operations, the closing rate is used. For income statement items, various rates are used. IAS 21 permits use of the closing rates, transaction dates' rates, or approximate averages. E44 stipulates use of transaction dates' rates; in hyperinflationary economies, use of the closing rate. Australia and Canada call for transaction dates' rates, or approximate averages. New Zealand specifies the closing rate; the United Kingdom permits use of the closing rate or an average rate for the period. The United States requires transaction dates' rates or weighted average exchange rates. It is clear that the use of transaction dates' rates, or appropriate average rates, will yield distinctly different translated income activity from use of the end-of-period closing rates. Thus, although conceptually the same translation model – the current method – is employed, significantly different results are possible.

To illustrate this point, assume a UK parent company has a French subsidiary. The balance sheet and income statement of the French subsidiary, conformed to UK generally accepted accounting principles, are given in Example 3. The French franc statements have been translated according to IAS 21, E44 and the preferred UK closing rate and alternative average rate methods for an independent foreign operation. Exchange rates used in the example are taken from Table 2 above. For simplicity it is assumed that income statement activity followed exchange rates called for by E44. For the translation of the income statement and the balance sheet into British pounds according to IAS 21, the closing rate was used; this yielded the same translated results as was obtained using the preferred UK approach as the same exchange rates were used. For the translation into British pounds according to E44, the income statement items were translated at average rates, and balance sheet items, excluding common stock and retained earnings, were translated at the closing rate. The same was done to translate according to SSAP 20's alternative average rate method. In all cases common stock and paid-in capital were translated at historical rates. The ending retained earnings balances equal the beginning translated balances plus the period's translated income. The translation losses were the amounts needed to balance the equities with the assets; they are included as a reduction of owners' equity. This example illustrates that the translation rates employed will produce different revenue, expense, and bottom line results. Use of an average exchange rate has resulted in a higher net income and a smaller translation loss than did use of the closing rate. Use of transaction dates' rates for E44 would have been produced yet another net income and translation loss.

Integrated foreign operations are translated using the temporal method, New Zealand excepted. The temporal method requires different treatment be given to balance sheet monetary and non-monetary items. All the standards studied require that monetary items be translated with the closing rate. The preferred treatment for nonmonetary items is the use of historical rates; however, IAS 21, E44 and Australia's AAS 20

Example 3. Translation of independent French subsidiary's incomes statement and balance sheet in British pounds following IAS 21, E44, and SSAP

		British Pounds			
				SSAP 20	
	French Francs	IAS 21	E44	Closing rate	Average rate
Income statement					
Sales	159 000	16 186	16 298	16 186	16 298
Cost of goods sold	79 500	8 093	8 149	8 093	8 149
Operating expenses					
General and administrative	33 000	3 359	3 383	3 359	3 382
Depreciation	13 500	1 374	1 384	1 374	1 384
Interest	500	51	51	51	51
Earnings before taxes	32 500	3 309	3 331	3 309	3 331
Tax	11 700	1 191	1 199	1 191	1 199
Translation gains (losses)	0	0	0	0	0
Net income	20 800	2 118	2 132	2 118	2 132
Balance sheet					
Current assets					
Cash	2 750	280	280	280	280
Accounts receivable	22 000	2 240	2 240	2 240	2 240
Inventory	15 400	1 568	1 568	1 568	1 568
Prepaid insurance	3 850	392	392	392	392
Fixed Assets					
Land	30 000	3 054	3 054	3 054	3 054
Building	45 500	4 632	4 632	4 632	4 632
Equipment	13 000	1 323	1 323	1 323	1 323
Accumulated depreciation	(5 000)	(509)	(509)	(509)	(509)
Long-term notes receivable	6 000	611	611	611	611
Total Assets	133 500	13 591	13 591	13 591	13 591
Current liabilities					
Accounts payable	17 500	1 782	1 782	1 782	1 782
Taxes payable	8 500	865	865	865	865
Note payable	10 000	1 018	1 018	1 018	1 018
Common stock and paid-in capital	50 000	5 365	5 365	5 365	5 365
Retained earnings[a]	47 500	4 983	4 997	4 983	4 997
Translation gains (losses)	0	(422)	(408)	(422)	(408)
Total liabilities and shareholders' equity	133 500	13 591	13 591	13 591	13 591

[a]Beginning retained earnings.

permit use of revaluation date rates, and Canada's AR 1650 requires use of the closing rate for items carried at market. Income statements are translated either at transaction dates' rates, or average exchange rates, with the exceptions of cost of goods sold and depreciation expense which essentially require use of historical rates.

The accounting for translation gains and losses is tied to the treatment given the foreign operation. If accorded independent operation current method treatment, translation gains and losses are taken to shareholders' equity. If accorded the temporal method, whether integrated or independent, translation gains and losses are carried to the income statement (profit and loss account).

From the above discussion, it is clear that the classification of the foreign entity is critical to translation accounting. Under the standards examined criteria are specified for classifying foreign entities; they are very similar from one standard to the next. The main criteria to consider when classifying the foreign operation as independent or integrated include: (1) the day-to-day interaction with the parent company; (2) the impact of the foreign operation's cash flows on the parent; (3) the amount of day-to-day financing obtained from the parent; and (4) the locality of costs, market competition and price determination. If the foreign operation is deemed to be largely self-sufficient from the parent when measured against these criteria, it is an independent foreign operation. If it is seen to be an extension of the parent and highly dependent upon the parent, it is an integrated foreign operation. Thus, considerable management judgment is required in making this determination, especially since foreign subsidiaries are likely to take positions along a continuum, not polar positions, when applying these classification criteria. Furthermore, as noted above, when the temporal method is used to translate foreign operations in hyperinflationary economies such classification is essentially meaningless. Both independent and integrated entities are treated as extensions of the parent when it comes to translation, whether they are integrated in fact or not. This may cause considerable income volatility if the parent company has large net investments in largely independent foreign operations in hyperinflationary economies as translation gains and losses would be carried to earnings along with transaction gains and losses.

All standards examined require that the methods and rates of exchange be disclosed in the footnotes to the financial statements. In certain situations, when exchange differences occur, the prescribed treatment allows deferral of the gains and losses or they can be included in the carrying value of the asset. This deferral treatment is only discussed for very specific circumstances in IAS 21, the New Zealand standard, and the Canadian standard. If it is used, the amount and circumstances of the deferral must be disclosed in the footnotes. Australia, Canada, New Zealand, and the IASC require that the effect of exchange differences on asset values be disclosed. The amounts of all translation gains and losses must be disclosed for every country in this study. Additionally Australia, Canada, New Zealand, the United Kingdom, the United States, and the IASC all require reconciliation of the foreign currency translation, or reserve, account with its beginning balance and posted gains and losses.

Conclusion

During the decade of the 1980s into the 1990s there has evolved broad consensus among the foreign currency translation standards of the IASC and those of the English-speaking countries examined for this study. There does not appear to have been any great attempt to incorporate the findings of social scientific, statistically based empiricism in this evolution. Rather, it seems that standard setters, through discussion, observation, and imitation have gradually moved to the present general consensus.

Our study has revealed the broad outlines of this consensus. First, all the standards examined, excluding New Zealand's, differentiate between foreign operations in non-hyperinflationary and hyperinflationary economies, and between independent and

integrated foreign operations. As noted above, there is an overlapping of these distinctions so that within non-hyperinflationary economic environments the most common approach is to account for the translation of independent foreign operations according to some variation of the current model and to account for the translation of integrated foreign operation, excluding New Zealand, employing some variation of the temporal model. Within hyperinflationary economies two approaches to translation accounting are found: (1) the restate/translate approach; and (2) the temporal approach. When the restate/translate approach is used, it appears the dichotomy between independent and integrated foreign operations is maintained; whereas, when the temporal method is employed, it is applied to both independent and integrated foreign operations. Use of the temporal method in hyperinflationary situations, whether for independent or integrated operations, implies that, in such an economic environment, foreign operation independence is not possible. Use of the restate/translate approach is a nod to purchasing power parity theory; however, it is not extended to non-hyperinflationary situations.

Second, Patz's distinction between a measurement versus a restatement approach to translation is found in the standards studied, without, however, the price-level adjustment, except in hyperinflationary situations, which Patz recommended. When a foreign operations is dealt with, and translated as an independent operation, restatement is involved as the intention is to preserve the information and relationships captured by the pretranslation, local measurements. This is essentially a multiple unit of measure approach, i.e. an attempt to reflect the financial results of individual foreign operations as measured in their respective operative (functional) currencies in conformance with parent country generally accepted accounting principles. When the temporal model is applied to the translation of integrated foreign operations in non-hyperinflationary economies or to operations, whether independent or integrated, in hyperinflationary environments, a measurement approach is taken. In essence, foreign operations are seen as extensions of parent operations; thus, foreign operations are measured from a parent perspective and according to the parent's domestic accounting standards. This is basically a single unit of measure approach.

Third, despite broad consensus regarding the need for an eclectric approach to foreign currency translation, and rather similar solutions to the general problems involved in the translation, there are many differences between the standards examined. These differences can cause great variation in the results of foreign entity translation, inhibit comparison and complicate decision-making. Thus, the IASC is on the proper track with its harmonization project and its efforts to reduce the allowable alternative accounting treatments. With respect to E44, *The Effects of Changes in Foreign Exchange Rates*, it is appropriate to note that it is an improvement over IAS 21, but it could itself be improved further. For instance, without justification, it permits two treatments of severe devaluation; IAS 21 permitted only one. And it permits deferral of exchange gains and losses on various hedging transactions without specifying in which account the deferrals are to be maintained. Based on IAS 21's treatment of exchange gains and losses on a liability hedge of a net investment in an independent operation, it may be inferred that E44 provides for the deferrals to be retained in shareholders' interest. This needs to be clarified.

It is widely recognized that international harmonizations of accounting standards is a desirable goal in the dissemination of comparable financial accounting information

as a way to facilitate the globalization of securities offerings, the international movements of investment capital, the minimization of regulatory effort, and the reduction of corporate reporting costs. It well may be that the IASC offers the best hope for the gradual international harmonization of financial accounting standards. However, as it lacks enforcement powers, it is dependent upon the voluntary compliance of individual national standard-setting bodies. Thus the harmonization of foreign currency translation is a two-phased process: (1) the IASC must complete its work on E44; and (2) national accountancy bodies must bring their individual standards in line with IASC's creation.

Appendix: Table of Countries for which Foreign Currency Translation Standards were Reviewed

Country	Title of applicable standard	Abbreviation	Effective beginning date	Standard setting organizations
Australia	Australian Accounting Standard. Foreign Currency Translation	AAS 20 ASRB 1012	January 1988 July 1988	Australian Society of Certified Practising Accountants; The Institute of Chartered Accountants in Australia; and The Australian Accounting Standards Board
Canada	Accounting Recommendations. Foreign Currency Translation	AR 1650	June 1983	Canadian Institute of Chartered Accountants
New Zealand	Statement of Standard Accounting Practice. Accounting for the effects of Changes in Foreign Currency Exchange Rates	SSAP 21 Int. 17	July 1988 July 1989	New Zealand Society of Accountants
UK	Statement of Standard Accounting Practice. Foreign Currency Translation	SSAP 20	April 1983	The Accounting Standards Committee, which consists of the six members of the Consultative Committee of Accounting Bodies
USA	Foreign Currency Translation	FAS 52	December 1982	Financial Accounting Standards Board
International Accounting Standards	Foreign Currency Translation	IAS 21 E32 E44	January 1985 January 1989 May 1992	International Accounting Standards Committee

Notes

1. There are terminological differences between translation standards. The Australian and Canadian standards refer to self-sustaining versus integrated foreign operations. The UK standard distinguishes

between separate or quasi-independent entities and those which are more dependent upon the economic environments of the investing company's currency. The US standard differentiates between entities which are relatively self contained and integrated within a foreign country, and those which are extensions of the parent's domestic operations.

2. Different terms are used in the translation standards for the concept of a hyperinflationary economy. The Australian, Canadian, and US standards refer to a highly inflationary economy or economic environment. The UK standard mentions areas of hyperinflation. IAS 21 refers to a foreign entity affected by high rates of inflation. And the New Zealand standard does not even mention high inflation or hyperinflation
3. There are hybrid method used in practice, such as using the current–noncurrent model but translating inventories at rates prevailing at the purchase date. But these methods are beyond the scope of this paper (Choi and Sondhi, 1985).
4. In a letter to the authors, (February 4, 1993), Mr. J.F. Judge, Partner, Ernst & Young, Auckland New Zealand, wrote:

> In our experience the typical New Zealand parent company does apply the closing exchange rate to independent foreign operations who are operating in hyperinflationary countries. Similarly, integrated foreign operation of New Zealand parent companies are accounted for in New Zealand using the monetary/non-monetary approach.
>
> In our experience the accounting method favored by New Zealand parent companies accounting for and disclosing the impact of hyper-inflation upon foreign subsidiaries is to restate the foreign assets for the effects of hyper-inflation and then to translate at the closing exchange rate. This is often referred to as the "current rate method". There are two qualifications to the acceptance of this restating/translating method:

(a) the foreign subsidiary should be operating in an overseas country where financial statements are required to be restated for changes in the current purchasing power of the relevant currency;
(b) the foreign currency fluctuations between the overseas country and the New Zealand currency are largely a product of the inflation rate differential that exists between New Zealand and the overseas country.

Where either one of these two qualification do [*sic*] not apply, it is arguably more correct to use an alternative method whereby the net assets of the foreign subsidiary are translated at the historical exchange rate and then restated for inflation rate changes in New Zealand. This translating/restating method is not generally followed in New Zealand because New Zealand financial statements are not required to be restated for inflation.

A New Zealand parent should disclose the method used to translate foreign currency transactions and financial statements of foreign operations. There are no particular disclosure requirements concerning the impact of hyper-inflation on foreign operations.

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International Accounting Implications of Bond-cum-Warrant Issues

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Key words: Warrant bond; Singapore accounting standards

Abstract: *This paper examines the implications of differences in accounting practices for bond-cum-warrant (warrant bond) issues. The accounting practices for bond-cum-warrant issues in a number of countries are surveyed. In addition, for a sample of Singaporean firms, empirical evidence is provided on the impact of changing to the International Accounting Standards Committee split accounting standard. Significant changes in key financial ratios are observed. On balance, it is demonstrated that methods of accounting for warrant bond issues can substantively complicate the process of making inter-country comparisons of accounting information.*

In recent years, issues of debt with detachable warrants have increased substantially, both in the Eurobond markets and in various domestic capital markets.[1] In conjunction, the accounting procedures associated with bond-cum-warrant issues have also received much recent attention.[2] The differing methods used to account for these instruments have significant implications for traditional financial statement presentations. For example, if the coupon on the debt is low enough, the debt plus warrant issue can be issued at the par value of the debt, or even at a premium to the par value. In some countries, such as Singapore, it is permissible to account for the balance sheet implications of a debt plus warrant issue by increasing only the amount of debt outstanding. Because many other countries, such as the United States, follow the accounting practice of apportioning the market value of the warrants to equity, this significantly complicates inter-country comparisons of accounting information.

This paper analyzes the impact of debt plus warrant financing on the accounting statements of Singaporean issuers. It compares financial ratios calculated using the current accounting practice of recording the entire proceeds of the issue as a loan stock amount, with ratios calculated using the internationally recommended practice of recording the proceeds received for the two components of the issue separately. The paper is organized as follows: the first section examines the institutional

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background surrounding the use of bond-cum-warrant financing. The second section describes the recommended accounting standards for these issues in various countries. The third section gives details of the sample of Singaporean firms used in the study.

The fourth section provides empirical evidence on the accounting implications associated with using different standards. The final section provides a summary of results contained in the paper and offers some concluding comments.

Institutional Background

While debt plus warrant issues have gained popularity in many countries, e.g. the United States (Phelps et.al., 1991) and Germany (Gebhardt, 1989), this type of instrument has achieved the greatest popularity in the Asia–Pacific region, most importantly Japan. The bulk of the Japanese equity warrants trading in the London over-the-counter (OTC) market have been detached from Eurobond issues of Japanese corporations (Kuwahara and Marsh, 1992). From 1986 to 1989 Japanese corporations issued some US$145 billion worth of, usually US dollar denominated, warrant bonds at coupons ranging from 1 to 3 percent. Because of the low coupon on the US dollar debt issues, borrowers interested in obtaining yen financing were often able to currency swap the US dollar obligation to obtain a negative yen interest rate (Stulz, 1993). In 1989 alone, approximately $60 billion in Japanese stock warrants were issued and 158 percent more shares were issued due to warrant exercise than through public placements. The $95 billion in outstanding Japanese warrants at the end of 1990 contrasted with $2 billion in New York Stock Exchange (NYSE)-listed warrants and $700 million in UK warrants.

Singapore is another Asia-Pacific country in which debt plus warrant financing has been popular. As illustrated in Table 1, trading in warrants accounted for as much as 25.53 percent of quarterly volume and 14 percent of the value of Stock Exchange of Singapore (SES) turnover during 1989. As with Japanese issuers, Singaporean companies have used warrants to raise funds generally at below market coupons. In the July 1988 to June 1990 period, Singapore companies raised over $2.7 billion in bond-cum-warrant issues. Unlike Japanese issuers, the bulk of the

Table 1. Volume and value of debt with warrants traded on the Singapore Stock Exchange, 88Q4–90Q4

	Quarterly Volume		Quarterly value	
	Debt and Warrant	% of total market	Debt and Warrant	% of total market
4Q 88	145 272	12.58	71 208	3.24
1Q 89	845 354	17.13	508 594	9.49
2Q 89	1 586 161	25.53	1 3477 765	12.66
3Q 89	1 447 106	22.22	1 639 411	13.87
4Q 89	825 225	16.27	923 408	9.21
1Q 90	928 718	8.14	1 117 377	8.91
2Q 90	505 441	14.07	638 179	7.22
3Q 90	534 643	12.96	425 581	5.11
4Q 90	240 552	10.61	181 197	4.37

Source: Stock Exchange of Singapore, *Journal*.

Singaporean debt plus warrant issues were sourced in the Singapore capital market where, due partially to restrictions on non-resident investment, the bulk of funds were raised from domestic investors. The most important investment groups for either the discount security or the warrants are shareholders of record, other corporations and financial institutions. A number of different variations on bond-cum-warrant financing are observed, e.g. the warrants being distributed in a rights offering to shareholders while the loan is privately placed with financial institutions.

While there are a number of variations on debt plus warrant financing, these types of issues are analytically similar to convertible debt. In the absence of tax and other accounting considerations, Jones and Mason (1986), Finnerty (1986) and Billingsley, et. al., (1990) argue that convertible debt and bond-cum-warrant issues can be structured to be equivalent if the terms of the issues are comparable. However, in practice, there are significant practical differences between the two methods of financing. From an accounting perspective, the differences can be illustrated in the contrary treatment of these financing methods in APB 10 (1966), which recommends standardized treatment, and APB 14 (1969), which provides for distinct methods of handling these securities. More precisely, due to implementation difficulties which APB 10 raised, APB 14 concluded that "in the case of *convertible debt*, the inseparability of the debt and equity features is such that no portion of the proceeds from issuance should be accounted for as attributable to the conversion feature."[3] In the case of debt with detachable stock warrants, it is possible to ascertain a market value for the debt and equity portions of the issue, permitting the warrants to be accounted for as paid-in capital.

These accounting differences are also reflected in the observed differences in the terms contained in the two methods of financing. Table 2 provides evidence on the

Table 2. Japanese offshore issues of convertible debt and warrant bond financing, 1977–1989. The sample containes all convertible and warrant bonds issued by Japanese companies (except utilities and financial companies) on the dollar offshore market from 1977 to the end of 1989 for which an event date could be found in the *Financial Times*. The size is the average yen amount in millions and average maturity is in years.

	Total sample	Convertible issues			Warrant bond issues		
	no.	no.	Size	Matur.	no.	Size	Matur.
Total	451	83	12 285	14.19	368	27 354	4.74
1977	5	5	5920	15.00			
1978	1	1	10 255	15.00			
1979	6	6	10 520	14.00			
1980	4	4	7 798	13.75			
1981	20	20	9 738	14.67			
1982	10	8	9 387	14.86	2	11 535	5.00
1983	11	9	17 599	14.11	2	17 586	5.00
1984	31	15	15 167	12.94	16	12 753	5.67
1985	28	13	15 215	14.44	15	14 693	5.13
1986	42				42	15 267	5.32
1987	86	2	15 969	15.00	84	18 530	5.10
1988	103				103	21 044	4.66
1989	104				104	50 178	4.12

Source: Stultz (1993).

Japanese experience with these instruments during the 1980s. As is typical of the experience in other countries, convertible issues tended to have longer maturities, while five-year maturities were popular in debt plus warrant issues. The shorter maturities on the Japanese warrant bonds are tailored more closely to the requirements of the currency swap market. Other observed differences occur between the exercise price on the warrants, which tend to be set near the money, and the conversion price, which tends to be set out of the money. In contrast to recent Japanese experience, there is still a preponderance of convertible financing in the United States. This market practice persists in the face of strong arguments in favor of debt plus warrant financing (e.g., Billingsley et. al., 1990). In the United States, debt plus warrant issues have typically been used by “smaller, riskier companies.” This typical issuer profile has created a negative market perception for bond-cum-warrant offerings, (Finnerty, 1986). This perception does not appear to extend to bond-cum-warrant issues in other countries with different accounting practices, e.g. since the early 1980s, Germany which has experienced a “continuing boom” in bond-cum-warrant financing (Gebhardt, 1989).

In addition to differences between convertible and bond-cum-warrant issues, there are also practical differences between bond-cum-warrant issues. Unlike convertibles, these offerings do permit the warrant component to be detached as a separate security and traded independently. While, in some cases, the underlying debt issue can be used for the payment in the event of exercise, it is conventional for the detachable warrants to be exercisable only with cash.[4] The different possible designs for bond-cum-warrant issues have specific implications for groups which have a stake in the offering: the company shareholders, the investors in the issue, the underwriters and the tax authorities. For the German case where accounting regulations approximate those of APB 10, Gebhardt (1989) identifies two important design features of debt plus warrant offerings: whether the issue is being offered by a parent company or a foreign finance subsidiary; and, whether the issue is being offered at face value or at a premium. Of these, due primarily to the tax implications of the issue discount, the latter factor is more significant in other countries.

Accounting Standards

The typical transaction in a bond-cum-warrant issue involves the receipt of cash by the issuing corporation in exchange for debenture/loan stock units and warrants. In most cases, at primary distribution the warrant price is embedded in the price of the debenture to which the warrant is attached. If the offering is recorded as debt rather than split between debt and equity, an anomaly is created: low coupon debt is recorded on the balance sheet as being issued at par or, in some cases, a premium. To avoid the potentially adverse accounting implications, the practice of separating the two values (split accounting) for debt with warrants has been required in the United States since 1969 (APB 14). Similar split accounting is also recommended by the International Accounting Standards Committee (IASC), in its exposure draft E40, issued in August 1990.[5] Currently, Singapore does not have an accounting standard or recommendation for recording such complex capital issues.[6] However, because

Singapore accounting standards are normally modelled after the IASC standards, there may be changes in these standards in the future (Price Waterhouse, 1992).

The recommended accounting practices contained in APB 14 and IASC E40 require that "the issuer of a compound instrument should identify the instrument's component parts and account for them separately in such a manner that the sum of the carrying amounts assigned to the components of a compound financial instrument on initial recognition is always equal to the value of the instrument as a whole."[7] The justification for separating the component values is that, when a detachable or separate conversion/stock purchase option is issued along with the debt, the option is usually traded separately from the debt security and thus has its own identity and its own market value making it a distinct and separate financial instrument. However, this general approach can raise a number of practical problems, e.g. where the debt and the warrants are not traded in the secondary market.

To record various scenarios associated with debt plus warrant financing, three possible approaches are suggested to accomplish the split accounting or the separating of the values of the component parts:[8]

(1) Assess the fair market value of each component on the date of issue and adjust the amounts so determined on a pro rata basis to add to the whole. Thus the portion of the issuance proceeds allocated to the option/warrant is based on the relative fair values of the debt and the share purchase option or warrant at issue.
(2) Assign the residual amount to the least easily measurable component (often the equity instrument), after deducting from the total proceeds the value of the other measurable component(s).
(3) The value of the option may be determined by reference to the value of a similar option, if one exists, or by using an option pricing model.

When the warrants are assigned a value from the total proceeds received, these proceeds are to form a part of the equity section as a non-distributable reserve. This amount is to be added to the amounts received from the exercise of the warrants to form a part of the share premium account or the "capital-in-excess of par" account as the case may be. The amount relating to the warrants not exercised is to be left in the reserve account. But in no event is it to be treated as a profit on the issue of the capital.

For debt issued with below market coupons, an allocation of warrant part of the proceeds to the equity account will give rise to an original issue discount (OID) on the debt issue indicating that the debt was sold at a price lower than its par or face value. Under the US Internal Revenue Code, this OID is to be amortized as an interest expense over the life of the debt instrument, in order to represent the "true" higher effective interest cost of the debt to the issuer. This tax benefit realized by OID issuers is balanced against the increased tax liability of OID investors (Billingsley, et. al., 1990). Taking account of the OID is expected to result in a higher interest charge and a lower net earnings on the profit and loss account, as well as impacting the return ratios, the interest coverage ratio, and the gearing ratio. By reducing reported earnings, the diluted EPS will also be affected. However, in the absence of differing tax implications, the cash flows remain unaffected under either accounting treatment.

The Sample

The reporting sample includes companies listed on the SES which issued warrants with debt/loan stock during the two-year period July 1988 to June 1990. Companies which had issued TSRs (transferable subscription rights) with an issue of equity were excluded because these involved no debt. Subsequent issues of similar bonds by the same corporation within the two-year period are not included in the calculations. These procedures gave a final sample for analysis of 23 bond-cum-warrant issues by Singapore companies, which are listed in Table 3. Twenty-five percent of the sample companies sold the warrants separately to their own shareholders. The loans of these companies were privately placed with financial institutions at a discount. Almost half of the sample companies sold their debt issue in a rights offer to their own shareholders. In many of the sample companies, large blocks of shares were held by other related corporations, making the loan primarily an inter-corporate transaction. In the case of the remaining companies, details of the structure are not well known. For present purposes, it is assumed that the initial investor in bonds bought them with the attached warrants.

Table 3. Bond-cum-warrant issues in Singapore, July 1988 to June 1990

Company	Issue date	Amount in thousands
Hotel Properties	August 88	70 000
Lum Chang Holdings	December 88	34 511
Singapore Land	January 89	109 822
OCBC	February 89	200 000
InnoPac Holdings	March 89	18 100
OUB	May 89	118 000
Guthrie	June 89	13 288
SSL	June 89	150 00
SSL	June 91[a]	90 000
DBS Land	July 89	100 000
DBS Land	Feb/Apr 90[a]	375 000
Fraser & Neave	August 89	200 000
Chuan Hup	August 89	79 677
YHS	August 89	40 000
Sembawang Shipyard	September 89	50 000
FELS	September 89	151 700
Causeway	September 89	7 253
Nat Steel	October 89	95 800
UOB	November 89	167 954
UOB	June 92[a]	200 000
Wing Tai Holdings	December 89	116 750
Singmarine	December 89	54 350
Singmarine	December 89	60 190[b]
EYS	December 89	8 984
ICB	December 89	75 000
JCMPH	February 90	79 850
Cycle & Carriage	April 90	61 250
Total amount raised		2,727,479

[a]These bond amounts are not included in the analysis.

[b]Issued in US dollars. Amount shown is the Singapore dollar equivalent.

To test the impact of split accounting on the financial statements of Singapore companies, it is assumed that the sample companies adopt the E40 recommendations which are used to arrive at the warrant values and reconstruct the accounts to evaluate the suggested split accounting practice. The corporation prospectuses, published with the announcement of the debt issue, were thoroughly examined, together with the annual reports for the three year period 1989 through 1991. Additional information to the extent possible is sought from the *Daily Financial News* published by the SES. Of the total sample of (23) companies which issued bonds with warrants during the two-year period, five companies sold the loan and the warrants separately to investors through their underwriters.[9] For four of these companies, the selling price of the warrants was actually available and the amount of proceeds received was objectively determinable. However, the loans were not actively traded and, consequently, a loan quotation was unavailable. Fifteen others had their loans selling on the market immediately after issue date and thus, loan values and total proceeds from loan sale were ascertainable. The remaining companies had neither their loans trading on the market nor was any verifiable or objectively determinable data available on warrant values. This leaves a sample of 19 offerings.

To illustrate the implications of split accounting, the approach used is to allocate a value first to the more objectively determinable or measurable component and assigning the residual to the other component. Using a sample of German offerings, Gebhardt (1989) provides evidence that the separate after-market trading values for the bond and detached warrants were almost precisely equal to the total proceeds received from the bundled offering, providing empirical support for the valuation methodology selected. Given this, the other two possible accounting approaches suggested in E40 are found to be less reliable due to (a) insufficient data and (b) possible errors associated with estimates from a warrant pricing model.[10] Based on this rule of allocating an objectively determined value to one component and the residual to the other, it is possible to calculate the carrying value of the loan for each of the 19 companies. The carrying value of the loan so determined, on the date of issue, reflects the present value of the contractual arrangement to settle the obligation at maturity and to make the scheduled periodic interest payments up to the date of settlement.

The difference between the issue price or total proceeds received, and the carrying value of the debt is used to establish a value for the warrants in 15 cases where no specific warrant value was available. The other four cases calculate the residual using the market value provided for the warrants. The difference between the par value (face value) of the debt and the carrying value of the debt, which is the present value of the principal and interest cash flows, is the original issue discount (OID). For the sample of 19 firms, only four issues were sold at premiums, ranging from 3 to 25 percent.[11] The remaining issues were structured to price the bond plus the warrant at the par value of the bond. Despite this, all the sample companies issued their debt at a discount. All issues were quoted and sold at less than the face or par value after separating the value of the warrants. The discounts range from a low of 13.5 percent to a high of 32.63 percent. The effective interest rate is higher than the coupon interest rate in all cases. As illustrated in Table 4, on average nearly 25.7 percent of the funds raised by bond-cum-warrant issues constituted the price/value

Table 4. Warrant values, selected issues

Issue price	Warrant value	As % of Issue Price
8 984	2 313	25.75
75 000	18 750	25.00
18 100	5 647	31.20
95 772	22 602	23.60
50 000	12 470	24.94
109 822	24 051	21.90
150 000	40 410	26.94
167 955	37 790	22.50
40 004	7 201	18.00
7 253	2 227	30.70
79 677	19 781	24.83
70 000	18 550	26.50
13 288	1 993	15.00
79 805	26 481	33.18
34 511	4 814	13.95
61 250	18 000	29.39
100 000	24 026	24.03
151 700	49 506	32.63
114 540	38 080	33.25

of the warrants. This compares favourably with the 20 percent warrant value for Japanese warrant bond issues reported by Stulz (1993).

Results

Assuming that coupon payments are made semiannually, an internal rate of return (IRR) or an effective interest rate is calculated for each issue such that the present value of the cash flows from interest and principal is equal to the present carrying value of the loan. The calculated values of the OID and the effective interest rate are used to restate the actual interest cost of the debt. The average value of OID in our sample group was 24.5 percent of the face or par value of the debt issued. The spreads between the coupon interest rates and the calculated effective interest rates range from 3.25 percentage points to 8.9 percentage points. Table 5 shows that the actual cost of borrowing as represented by the effective interest rate ranges from 6.89 percent to 14.9 percent. In comparison, the risk-free rate of interest during this period, represented by the five-year Government bond yield, varied between a monthly average high of 5.70 percent in August 1988 and a low of 5.09 percent in August 1989. In the first half of 1990, it remained within this range.[12] The actual difference between the coupon and the expected effective interest cost is a function also of the perceived risk associated with the issuer. This is evident in the table, which shows that the highest difference between the two rates does not necessarily occur with the deepest discount.

By using the accounting information prepared according to E40 recommendations, it is possible to recalculate the financial statements for the firms in the sample. To do this, different approaches can be used to calculate key financial ratios for each of

Table 5. Coupons and effective interest rates

Coupon rate	Effective rate (%)	Spread
6.50	10.13	3.63
6.00	14.90	8.90
5.00	8.35	3.35
5.00	12.24	7.24
4.00	7.67	3.66
4.00	11.04	7.04
3.50	11.97	8.47
3.00	11.80	8.80
3.00	7.35	4.35
2.00	7.31	5.31
1.50	7.33	5.82
1.50	7.60	6.10
1.50	7.21	5.71
1.50	8.17	6.67
1.50	6.89	5.39
1.25	7.29	6.04
1.25	9.63	8.38
1.00	8.40	7.40

Includes 18 of the 23 companies for which calculations were possible.

Table 6. Change in ratings after discount amortization, 1989–1991 reporting periods. All figures in percent

Range of reduction in return ratios		Range of reduction in interest coverage		
Method one	Method two	Method one	Method two	Average improvement in debt to equity
22 – 95	34 –169	12 – 95	21 – 95	24.4
7 – 11	10 – 13	70 – 70	74 – 76	30.5
8 – 36	7 – 27	13 – 24	13 – 19	19.3
6 – 8	8 – 11	18 – 38	24 – 42	19.6
2 – 4	3 – 5	23 – 40	27 – 45	19.3
8 – 21	12 – 31	6 – 18	10 – 25	4.7
22 – 25	28 – 30	40 – 62	48 – 66	24.4
2 – 2	3 – 3	56 – 67	60 – 73	17.6
13 – 72	16 – 99	6 – 15	8 – 18	11.6
17 – 124	17 –116	18 – 32	21 – 32	18.3
19 – 30		20 – 48		39.1
37 – 108	14 –120	32 – 49	39 – 51	11.9
5 – 42	7 – 50	11 – 17	13 – 21	12.1
17 – 25	21 – 27	11 – 13	13 – 17	30.0
11 – 28	9 – 27	12 – 15	11 – 12	5.3
1 – 3	2 – 3	19 – 38	22 – 42	15.5
7 – 11	9 – 14	5 – 32	7 – 36	4.5
19 – 30	26 – 34	68 – 78	75 – 81	42.2
20 – 31	26 – 36	73 – 92	79 – 93	42.3

Method one: Straight–line amortization.
Method two: effective yield amortization.

the sample offerings. For comparative purposes two approaches have been used: one approach is based on a straight line amortization of the OID over the life of the bond, and the other is based on the effective interest rate method of amortisation of the OID. Given this, Table 6 provides the results for changes in certain key ratios:

return on assets, interest coverage, and debt to equity ratio.[13] Ratios calculated using E40-consistent accounting numbers are compared with the ratios calculated from the data reported in the annual reports, which treat bond-cum-warrant issues as all debt. Due to reduction in earnings associated with the inclusion of the amortized OID value, it is expected that return on assets (earnings/total assets) will fall. A similar comment applies to interest coverage ([earnings + interest]/interest) and the debt to equity ratio.

The results calculated for the three reporting years (1989–91) examined are as expected: the return ratios and the interest coverage ratios show deterioration and the debt/equity ratios show improvement after the E40 recommended split accounting method is used. As is evident from the table, there is a noticeable effect on the reported earnings and the interest cost of the issuer if the warrants are assigned a value and the consequent discount is recognized. Due to the varied nature of the companies in the sample, both as to the nature of business and performance during the three-year period, the effect is more dramatic in the case of some of the companies than in the case of others. Nevertheless, all companies would have had to show deteriorated earnings and return ratios and increased interest burdens if the E40 rules were followed. On balance, the effect on the interest coverage ratio is usually more pronounced than the effect on the return ratios.

Conclusions

This paper illustrates the complications which can arise in international comparisons of accounting information. Specifically, differing accounting treatments are possible for bond-cum-warrant issues. In Singapore, it is conventional to account for debt plus warrant issues by increasing only the amount of debt outstanding. Results were provided which compared actual reported financial results of selected Singapore companies with accounting information produced using E40 recommended treatments. It is demonstrated that key financial ratios are significantly changed by giving recognition in the equity account to the market value of the warrants. Among other features, earnings, interest cost as well as debt and equity are affected for all sample companies. From an international accounting perspective, this is important because other countries, e.g., the United States and Canada, use the APB 14 and IASC E40 standards for preparing financial statements.

This analysis does raise the question of why Singaporean companies do not give recognition to the warrant values when there is a de facto issue of two separate financial instruments. One possible motivation for non-recognition of warrant values and the resultant issue discount may be that the discount amortization which will be required under the E40 rules is not currently specified as a tax-deductible expense. In the meantime, the financial institutions which invest in these loan issues currently benefit from a lower tax on the lower cash interest receipts. Arguably, if the rules of recognition of discount are to be adopted, a case can be made for issuer tax deductibility of the discount amortised as additional interest (Price Waterhouse, 1992). Another possible motivation may be the ability to report higher earnings and lower interest costs, because the investing public at large values reported earnings more than any

other piece of information on the financial statements. For the immediate future, corporate debt plus warrant issues have begun to appear in emerging capital markets such as Malaysia and Indonesia.

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Notes

1. For the uninitiated, warrants are a form of call option, written by the corporation, for purchase of its shares by the warrant holder at a specified exercise price within a specified period of time. Exercise of warrants involves an increase in the number of shares outstanding. In Singapore, warrants are commonly referred to as transferable subscription warrants or transferable subscription rights.
2. OECD (1988), FASB (1990), FASB (1991) and International Accounting Standards Committee (1990).
3. Bernstein (1993, p. 374).
4. Lim and Goh (1985) examine a sample of Singaporean warrants which could be exercised with low coupon "loan stocks," valued at par. Eleven of the 23 bond-cum-warrant issues used in the present study have this feature on the bond issues.
5. The comment period for the exposure draft ended on May 31, 1992. The IASC Board published its tentative conclusions based on its review of the comments received on the E40 draft in a special issue of IASC *Insight* in May 1993. According to IASC sources, a substantial majority of commentators on the special issue emphasized the need for re-exposure. As a consequence, a revised exposure draft, E48, was published on January 1, 1994, with comments due by July 31, 1994.
6. The ICPAS had a draft proposal for adopting rules similar to APB 14 and IASC E40 (*Singapore Business Times*, December 9, 1991). However, decision on the issue was postponed. Recently the institute has recommended a *disclosure* of the two separate components of the total proceeds of debt with warrant issues. Consequently, with some of the new issues (Fraser and Neave, Annual Report, March 1993) companies have reported a percentage of proceeds received as being the loan value and assigned a separate value to warrants. However, IASC's E40 maintains that disclosure can not be a substitute to recording as per the standard.
7. Paragraph 28, E40 issued by the IASC in August 1990. This paragraph also lists the approaches that can be used in measurement of the components.
8. Paragraph 28 in IASC E40, and paragraph 16 in the APB 14
9. Of the five which sold the warrants separately, to their own shareholders, one did not disclose the proceeds at which the warrants were sold. The loan also was not traded. Hence, this company is one of the four for which split accounting could not be performed.
10. Several researchers have examined the applicability of the Black–Scholes model of option pricing and found it not acceptable for pricing warrants, e.g. Ng (1992) and Crouhy and Galai (1991). Lim and Goh (1988) develop a model for pricing of warrants with an option to exercise by surrender of loan stocks.
11. Some companies reported this premium amount as part of the equity section but as a premium on loan and not as the value of the warrants. Some of these companies reported that they amortized this premium on a straight-line basis over the life of the bond, usually five years. This will have erroneously increased their reported earnings instead of showing a higher interest cost as expected.
12. Five-year government bond yields are taken from the monthly statistics of the Monetary Authority of Singapore (MAS).
13. The interest coverage ratio is not adjusted for potential tax adjustments. For both the return and interest coverage ratios, the recalculations involve subtracting the amortized OID from earnings.

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An Empirical Assessment of IASC's Proposed Goodwill Amortization Requirement

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Key words: Goodwill; Financial reporting; International accounting standards

Abstract: *A recent International Accounting Standards Committee (IASC) statement of intent (1990) proposes to restrict the goodwill amortization period to less than five years, which is significantly shorter than the 40-year amortization period currently used by many US firms under APB No. 17. Using a cross-sectional equity valuation model, this study documented consistent evidence indicating that the reported goodwill under APB No. 17 has been significantly understated relative to its market value and has been more understated than other assets reported in financial statements. The evidence is consistent with the view that in a successful business the value of goodwill does not decline because it is being continuously maintained. A direct implication of the findings is that the five-year amortization period proposed by IASC not only will cause the reported goodwill to be more severely understated, but will also make the reported goodwill less consistent with other assets in the financial statements.*

Significant controversies currently exist on the appropriate accounting treatment for goodwill. The International Accounting Standards Committee (IASC) recently issued a Statement of Intent to amend, among other things, the accounting policies for goodwill in International Accounting Standards No. 22 (IAS No. 22, 1983). Specifically, the Statement of Intent proposes to restrict the amortization period to less than five years unless a longer period can be justified, but under no circumstances can the amortization period exceed 20 years. This proposed amortization period is significantly shorter than the amortization period currently permitted under APB No. 17 which requires goodwill to be amortized within 40 years. Given that the majority of US firms use the maximum 40-year amortization period now, it is evident that IASC's position, if adopted by the Financial Accounting Standards Board (FASB), will have a significant impact on firms with goodwill.

IASC's five-year amortization requirement implies that goodwill has a very short life, while APB's 40-year amortization requirement implies that goodwill has a relatively long life. This study attempts to document empirical evidence regarding

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investors' assessment of the economic life of goodwill using an equity valuation model similar to that used by Landsman (1986). Specifically, the magnitude of the coefficient estimate for goodwill from the equity model regression is compared with its theoretical value. A goodwill coefficient that is significantly smaller than its theoretical value would indicate that the reported goodwill under the current 40-year amortization requirement is significantly overstated relative to its market value. This would suggest that the economic life of goodwill is much shorter than the current 40-year amortization period. Such evidence, therefore, would be consistent with IASC's proposal of dramatically shortening the amortization period. On the other hand, a significantly larger goodwill coefficient would indicate that the reported goodwill under the current 40-year amortization requirement has already been significantly understated relative to its market value. Thus this would suggest that attempting to shorten the amortization period would further distort the financial statements of firms with goodwill.

Using the reported goodwill data of New York Stock Exchange (NYSE) firms for the two-year period of 1988 and 1989 (when the goodwill data became available in Compustat data tapes), this study obtains significant evidence on the investors' assessment of reported goodwill over the two-year period tested. Specifically, the goodwill coefficient is 119% and 101% greater than its theoretical value for the two years of 1988 and 1989 respectively, indicating that the reported goodwill assets by US firms under APB No. 17 are perceived by investors as being significantly understated. This evidence is consistent with the view that since companies regularly incur large expenses to maintain the economic value of their goodwill, the economic value of goodwill diminishes at a speed slower than the 40-year amortization period currently used by the majority of US firms under APB No. 17. The evidence is least consistent with IASC's position that goodwill has a very short life and that goodwill amortization should be limited to within five years. A direct implication of the empirical findings is that any attempt to reduce significantly the goodwill amortization period would cause the reported income and assets of firms with goodwill to be systematically understated, thus imposing an unfair penalty on these firms.

The existing literature has suggested that the book value of some assets under historical cost accounting systematically understates their market value. It is possible that although the reported goodwill is understated, other assets are even more understated. If that were true, shortening the amortization period of goodwill would have the potential benefit of making reported goodwill more consistent with other assets in the financial statements. However, the empirical result of this study indicates that the goodwill coefficient is 87 percent and 38 percent greater than the coefficient estimate for the non-goodwill assets for the two years of 1988 and 1989, respectively. This result provides further evidence against IASC's position in that it suggests that shortening the amortization period from the current 40 years to within five years not only will cause the reported goodwill to be more severely understated relative to its market value, but also will make it less consistent with other assets in the financial statements.

The rest of this paper is organized as follows. Section 1 develops the model. Section 2 describes the sample selection and the data. Section 3 presents empirical tests and results. Finally, the last section summarizes and concludes the paper.

1. Model Development

APB No. 17, now over 20 years old, has been one of the most controversial accounting pronouncements ever issued (see Catlett and Olsen, 1968; Tearney, 1973; Laderman and Nathans, 1989; Duvall et al., 1992; and Davis, 1992, among others). Prior to APB No. 17, goodwill was carried at historical cost and amortized only if there was evidence of diminution in value, something companies were reluctant to acknowledge. The APB, responding to pressure to provide authoritative guidance, required amortization but allowed the lengthy 40-year amortization period so that the impact on earnings in any given year would be immaterial.

The magnitude of goodwill assets, however, has increased dramatically in recent years; consequently, goodwill amortization has an ever-growing impact on financial statements (see Davis, 1992). For example, 90 percent of the $12.9 billion Phillip Morris paid for Kraft Inc. in 1988 was attributable to goodwill. As the reported goodwill grows, the already controversial amortization requirement becomes even more contentious. At one extreme, some argue that goodwill should not be amortized at all. Proponents of this non-amortization view argue that the value of goodwill does not decline in a successful business because it is being continuously maintained. If goodwill were to be amortized this would be double counting, i.e., the cost of maintaining goodwill plus the amortization cost. It is recognized, however, that periodic revaluation of goodwill may be necessary to recognize any reduction in the value of goodwill. At the other extreme, some would prefer to eliminate goodwill entirely by charging it to stockholders' equity immediately upon acquisition. Proponents of this immediate write-off view argue that purchased goodwill is not an asset for purpose of financial statements because, among other things, goodwill is not separable or independently realizable and its value has no predictable relationship to the cost paid on acquisition. Further, they argue that comparability between firms is enhanced in that neither purchased nor internally developed goodwill is recognized as an asset. Between these two extremes, there are a variety of views favoring some systematic amortization of goodwill. Proponents of systematic amortization views argue that goodwill is a cost of resources that will be used up; therefore, it should be systematically amortized against earnings. For a summary of this debate, see Radebaugh and Gray (1993).

In light of the controversial nature of goodwill accounting, it is not surprising to find a wide variety of goodwill amortization policies across countries. These range from permitting immediate elimination at one extreme, e.g., in France, Germany, Italy, and the United Kingdom, to permitting non-amortization at the other, e.g., in Switzerland. The IASC in its IAS No. 22 recommended a flexible approach and did not specify a maximum period of amortization. More recently, however, the IASC has embarked on a project to improve the comparability of reported goodwill across countries. In its Statement of Intent (1990), the IASC seems to embrace the view that goodwill has a very short life. It requires that goodwill be amortized within five years unless a longer period can be justified, which should not, in any case, exceed 20 years.

While the desirability of harmonizing goodwill accounting is not disputed, given the significant impact of goodwill accounting on financial statements, the issue of

over what period goodwill should be amortized clearly warrants careful elaboration. An arbitrarily short or long period of amortization can adversely affect the usefulness of reported goodwill information. Obviously, the appropriate period over which goodwill is amortized should be consistent with the speed at which the economic value of goodwill diminishes. Given the controversial nature of the issue and its significant impact on financial statements, it is surprising that little empirical evidence regarding the economic life of goodwill has been documented in the existing literature. It is certainly timely to investigate empirically investors' perception of the appropriate amortization period for goodwill.

Two approaches are available in the existing literature for addressing similar issues, namely, the income statement approach and the balance sheet approach. The income statement approach, which is based on the traditional cross-sectional valuation model (Miller and Modigliani, 1966; Litzenberger and Rao, 1971; Tobin and Brainard, 1977), decomposes reported earnings into several components to test the differential market reaction to each component (see, for example, Daley, 1984). This study adopted the balance sheet approach (see Landsman, 1986). This approach is based on the basic accounting identity which holds that shareholders' equity is the residual of corporate assets less corporate liabilities. The balance sheet approach permits goodwill and the corresponding non-goodwill assets to be differently priced by the securities markets. The market valuation of reported goodwill will be compared with its theoretical value to determine whether reported goodwill assets are overstated or understated as perceived by investors. Specifically, if we let MVNGWA and MVL represent the market value of the firm's non-goodwill assets and total liabilities respectively, then the market value of the shareholders' equity, MVE is given by:

$$\text{MVE} = \beta_1\text{MVNGWA} + \beta_2\text{GW} + \beta_3\text{MVL} \tag{1}$$

Market value of shareholders' equity is defined to be price times number of shares outstanding (both are drawn from Compustat Industrial Data Tape). Analogous to Landsman's approach (1986), book values of assets and liabilities are used in the empirical test of this study. Consequently, the empirical analogue of the theoretical model given by Eq. (1) is:

$$\text{MVE}_i = b_0 + b_1\text{NGWA}_i + b_2\text{GW}_i + b_3\text{TL}_i + e_i \tag{2}$$

where NGWA and TL represent the book value of non-goodwill assets and total liabilities respectively. Notice an intercept and an error term are added for completeness. The goodwill coefficient (b_2) will be compared with its theoretical value of +1 (see Landsman, 1986). If the 40-year amortization period used by the majority of sample firms is consistent with the speed at which the economic value of goodwill diminishes, the reported goodwill should be equal to its market value, and, consequently, the goodwill coefficient is expected to be equal to +1 (its theoretical value). However, if goodwill has a very short life as implied by IASC's Statement of Intent (1990), reported goodwill using the current lengthy 40-year amortization period would be significantly overstated, and, therefore, the goodwill coefficient is expected to be significantly less than its theoretical value of +1. Conversely, if the economic value of goodwill diminishes at a very slow speed because firms regularly incur large expenses to maintain it, the reported goodwill that has taken the mandatory

40-year amortization would be significantly understated; therefore, the goodwill coefficient is expected to be significantly larger than +1. Stated differently, a goodwill coefficient that is significantly greater than +1 would indicate that the reported goodwill under the current 40-year amortization requirement has already been significantly understated. Shortening the amortization period to within five years would, therefore, further distort the reported financial statements, causing the reported income and assets to be significantly understated for firms with goodwill.

The goodwill coefficient, in addition to being compared with its theoretical value, is also compared with the coefficient estimate for other assets. The existing literature has suggested a host of reasons why the book value of assets may not be equal to their market value. Particularly, the literature has suggested that the book value of assets under historical cost accounting may systematically understate the market value of assets for a variety of reasons (see Landsman, 1986; and Hirschey and Weygandt, 1985, among others). For example, Hirschey and Weygandt (1985) found that the capital market capitalizes advertising and research expenditures even though accountants expense them. In light of previous findings, it is possible that the goodwill coefficient is greater than its theoretical value of +1, but smaller than the coefficient for the other reported assets. This would imply that although the reported goodwill is understated, the other assets are even more understated than goodwill. Such evidence would offer partial support to IASC's position since it would suggest that shortening the amortization period may have the potential benefit of making the reported goodwill more consistent with other assets, i.e., making the financial statements more consistent

Table 1. Means and standard deviations of regression variables

		1988	1989	Pooled
Undeflated				
N		597	594	1191
MV	mean	1124.55	1483.84	1303.74
	std. dev.	4002.86	4590.53	4307.93
TA	mean	1687.22	1911.74	1799.19
	std. dev.	6936.67	7350.14	7143.75
TL	mean	1021.56	1198.34	1109.73
	std. dev.	5029.88	5205.91	5117.04
GW	mean	124.70	191.98	158.26
	std. dev.	451.64	854.42	683.43
Deflated				
N		597	594	1191
MV	mean	460.32	718.98	553.32
	std. dev.	869.44	1821.49	1201.28
TA	mean	618.31	855.82	693.31
	std. dev	1399.90	2166.22	1615.54
TL	mean	365.79	529.95	418.81
	std.dev	1134.72	1656.50	1272.77
GW	mean	55.06	98.77	70.89
	std. dev.	139.01	428.05	246.44

MV: Market value of shareholders' equity.
TA: Book value of total non-goodwill assets.
TL: Book value of total liabilities.
GW: Book value of goodwill.

internally. However, a goodwill coefficient that is significantly greater than both its theoretical value and the coefficient estimate for other assets would provide further evidence against IASC's proposed five-year amortization requirement because IASC's amortization requirement not only will cause the reported goodwill to be more severely understated, but also will make the reported goodwill less consistent with other reported assets.

2. Sample Selection and the Data

The data used to estimate Eq. (2) in this study are drawn from the 1989 Compustat Industrial Data File. Since goodwill data became available only after 1988, the test period in this study consists of the two-year period of 1988 and 1989. To be included in the sample, firms must have the following information available in Compustat data file: (1) number of shares outstanding and price per share for common stock (Compustat items #24 and #25, respectively; (2) preferred stock data (Compustat item #10); (3) total assets (Compustat item #6); (4) total liabilities (the sum of Compustat items #5 and #9); (5) net sales (Compustat item #12); and (6) goodwill (Compustat item #204).

Applying the above sample selection criteria resulted in a sample size of 597 firms for 1988 and 594 firms for 1989. Sample descriptives statistics are presented in Table 1.

3. Empirical Tests and Results

Equation (2) is used to assess the market valuation of reported goodwill. Consistent with the discussion in Section 1, a goodwill coefficient, b_2, that is significantly smaller than its theoretical value of +1 would indicate that the reported goodwill under the current 40-year amortization requirement is significantly overstated, and, therefore, support IASC's proposal of a much shorter amortization period for goodwill in its Statement of Intent (1990). However, a goodwill coefficient that is significantly larger than its theoretical value of +1 would indicate that the economic value of goodwill diminishes at a speed slower than the current 40-year amortization period used by the majority of US firms. Therefore, this would suggest that IASC's proposed five-year amortization period may be too short. Before estimating Eq. (2), however, it is important to ascertain whether the amortization periods used by the sample firms are indeed significantly longer than the five-year period proposed by the IASC. For the year of 1988 Duvall et al. (1992) found that "as much as 86% of all subsample firms *may* be amortizing a substantial fraction of goodwill over the maximum period (of 40 years) allowed by APB No. 17" (Duvall et al., 1992, p.7). On the other hand, Duvall et al. (1992) also reported that "at least 31% of all subsample firms amortize some fraction of goodwill over shorter periods." To provide greater assurance regarding the amortization period used by sample firms of this study and particularly regarding the amortization period used by the minority of non-40-year firms, 80 firms were randomly selected from the sample, and their financial statements and accompanying

notes and schedules for 1989 were searched for goodwill-related disclosures. Goodwill-related disclosures were made by 78 percent of the subsample firms, while the remaining 22 percent made no goodwill-related disclosures. Of the firms that made goodwill-related disclosures, 56 percent used the maximum 40-year period for all goodwill; 13 percent used multiple periods including 40 years; an additional 18 percent used a period not exceeding 40 years. Only 10 percent of the subsample firms amortized all goodwill in less than 40 years, and furthermore, the average amortization period used by these firms was 21 years, which is still significantly longer than that proposed by the IASC. In summary, it seems reasonable to conclude that the amortization periods used by the sample firms of this study are significantly longer than the five-year period proposed by the IASC.

Before regressing the market value of equity on the book values of assets and liabilities, the data are transformed by deflating all regression variables using net sales to mitigate the heteroscedasticity problem (see Landsman, 1986; and Park, 1966). The regression results of Eq. (2) using the transformed data are presented in Table 2. All coefficient estimates have the predicted signs, and the three independent variables explained over 70 percent of the cross-sectional variations in the market value of sample firms' equities. More important, the IASC's position which predicts a goodwill coefficient of significantly less than +1 is clearly rejected by the results for each of the two years and the pooled data. Specifically, the goodwill coefficient is 2.19 and 2.01 for the two years of 1988 and 1989, respectively, which is 119 percent and 101 percent greater than its theoretical value of +1. The regression results support the view of many financial statement preparers that the reported goodwill under the current 40-year amortization requirement has already been significantly understated, and reducing the amortization period to within five years would further distort the reported goodwill.

The coefficient estimates for other assets for the two years of 1988 and 1989 are 1.46 and 1.35, respectively, and are significantly greater than the theoretical value of +1. This result is consistent with the existing literature that book value of assets under historical cost accounting is generally understated. But more important, the goodwill coefficient for each of the two years is 87 percent and 38 percent greater than the coefficient estimate for the other assets, indicating that goodwill is more understated than other assets. This result suggests that shortening the goodwill amortization period would make the reported goodwill less consistent with other assets reported in the financial statements. The empirical findings indicate that the economic value of goodwill diminishes, as perceived by investors, at a very slow speed. The evidence is consistent with the view that the economic value of goodwill is maintained, or even enhanced, by the large expenses regularly incurred by companies in maintaining their goodwill. The evidence is least consistent with the IASC's Statement of Intent which requires goodwill to be amortized in five years unless a longer amortization period can be justified, but under no circumstance can the amortization period exceed 20 years.

In summary, Table 2 presents empirical evidence against IASC's proposal of significantly shortening the goodwill amortization period. Despite the strong evidence in Table 2, the following three sensitivity tests were conducted to assess the robustness of the findings. First, a net asset model is considered to deal with the econometric

Table 2. Regression summary statistics

Model: $MV_{i,t} = b_0 + b_1TA_{i,t} + b_2GW_{i,t} + b_3TL_{i,t} + e_{i,t}$

		b_0	b_1	b_2	b_3	Adj. R^2
1988	(N = 597)					.75
Estimate		55.17	1.17	2.19	−1.19	
t-ratio		2.73	29.93	14.94	−25.74	
Prob.>|t|		.007	.001	.001	.001	
1989	(N = 594)					.70
Estimate		84.11	1.46	2.01	−1.54	
t-ratio		1.89	26.14	16.85	-19.84	
Prob.>|t|		.060	.001	.001	.00	
Pooled	(N = 1191)					.72
Estimate		61.12	1.35	1.99	−1.39	
t-ratio		2.98	40.30	23.24	−32.63	
Prob.>|t|		.003	.001	.001	.001	

problem of multicollinearity. The multicollinearity problem arises from the high correlation between total non-goodwill assets and total liabilities. The presence of a multicollinearity problem could result in a high sampling variance and a high degree of sensitivity of coefficient estimates to a particular set of sample data. However, it is worth noting that the regression coefficients and the sample t-statistics reported in Table 2 are unbiased in the presence of multicollinearity (see Landsman, 1986). Specifically, the following regression equation is used to deal with the multicollinearity problem:

$$MVE_i = b_0 + b_1NA_i + b_2GW_i + e_i \quad (3)$$

where NA is the book value of net assets (NA = TA–TL). Regression results using the net asset model are presented in Table 3. The signs and magnitudes of the coefficient estimates using the net asset model are substantially the same as that using the balance sheet model reported in Table 2. Specifically, the goodwill coefficient, b_2 is 2.12, 1.86, and 1.89 for 1988, 1989, and the pooled data. This is significantly greater than both its theoretical value and the coefficient for other

Table 3. Regression summary statistics: net asset model

Model: $MV_{i,t} = b_0 + b_1NA_{i,t} + b_2GW_{i,t} + e_{i,t}$

		b_0	b_1	b_2	Adj. R^2
1988	(N = 597)				.75
Estimate		52.67	1.15	2.12	
t-ratio		2.61	30.37	15.22	
Prob.>|t|		.009	.001	.001	
1989	(N = 594)				.70
Estimate		77.24	1.41	1.86	
t-ratio		1.73	28.01	19.09	
Prob.>|t|		.084	.001	.001	
Pooled	(N = 1191)				.72
Estimate		56.92	1.32	1.89	
t-ratio		2.77	41.78	24.51	
Prob.>|t|		.006	.001	.001	

Table 4. Regression summary statistics: expanded sample

Model: $MV_{i,t} = b_o + b_1NA_{i,t} + b_2GW_{i,t} + e_{i,t}$

		b_0	b_1	b_2	Adj. R^2
1988	(N = 1890)				.63
Estimate		145.85	.99	2.03	
t-ratio		8.12	53.79	11.70	
Prob.>|t|		.001	.001	.001	
1989	(N = 1838)				.58
Estimate		147.99	1.18	1.91	
t-ratio		7.63	47.78	15.81	
Prob.>|t|		.001	.001	.001	
Pooled	(N = 3728)				.59
Estimate		146.35	1.09	1.91	
t-ratio		11.10	69.43	20.00	
Prob.>|t|		.001	.001	.001	

assets for each of the two years and for the pooled data, respectively, strongly rejecting IASC's position of restricting the amortization period to within five years.

Next, an expanded sample which includes all NYSE firms that meet the first five sample selection criteria was used in the regression to ensure that the above results are not specific to firms in the original sample. The expanded sample consists of 1890 firms for the year of 1988 and 1838 firms for the year of 1989. The regression results of the net asset model using the expanded sample are reported in Table 4. (Although not reported, similar results were obtained using the balance sheet model.) The coefficient estimate for goodwill assets remains substantially the same as that reported in. Tables 2 and 3. Note that a better estimate for net assets is obtained from the expanded sample. The coefficient estimates for net assets for 1988 (.99) and for the pooled data (1.09) using the expanded sample are very close to their theoretical value of +1.

Finally, an expanded balance sheet model which incorporates non-goodwill intangible assets as an additional conditioning variable was used. The regression results are presented in Table 5. The coefficient estimates of non-goodwill intangible assets are 2.55, 2.46, and 2.33 for 1988, 1989, and the pooled data. This suggests

Table 5. Regression summary statistics (using intangible assets as an additional conditioning variable)

Model: $MV_{i,t} = b_0 + b_1TA_{i,t} + b_2IA_{i,t} + b_3GW_{i,t} + b_4TL_{i,t} + e_{i,t}$

		b_0	b_1	b_2	b_3	b_4	Adj. R^2
1988	(N = 597)						.76
Estimate		50.56	1.15	2.55	1.37	–1.18	
t-ratio		2.55	30.19	9.47	16.06	–25.06	
Prob.>|t|		.011	.001	.001	.001	.001	
1989	(N = 594)						.73
Estimate		69.17	1.52	2.46	2.26	–1.63	
t-ratio		1.63	28.35	18.09	19.20	21.86	
Prob.>|t|		.10	.001	.001	.001	.001	
Pooled	(N = 1191)						.74
Estimate		52.11	1.35	2.33	2.34	–1.40	
t-ratio		2.63	41.93	21.80	25.88	–34.10	
Prob.>|t|		.009	.001	.001	.001	.001	

that the economic value of other intangible assets in general also diminishes at a slower speed than the amortization period used by sample firms. But more important, the coefficient estimate for goodwill assets in Table 5 after controlling for non-goodwill intangible assets is greater than that in Table 2, indicating that the significantly greater coefficient estimate for goodwill in Table 2 is not driven by the potential understatement of other intangible assets. To summarize, sensitivity tests indicate that the research results are robust across research designs and stable over the two years tested. (Although not reported, similar results were obtained after deleting extreme observations, indicating that the results are not sensitive to outliers.)

4. Concluding Remarks

IASC's Statement of Intent (1990) proposes, among other things, to restrict the amorti-zation period for goodwill to within five years which is significantly shorter than the 40-year amortization period currently permitted under APB No. 17. Using a cross-sectional equity valuation model based on the accounting identity, this study documented significant evidence regarding investors' perception on the economic life of goodwill. Specifically, the goodwill coefficient is significantly greater than both its theoretical value and the coefficient estimate for other assets, indicating that the reported goodwill under the current 40-year amortization requirement has been significantly understated relative to its market value and has been more understated than other assets reported in the financial statements. The empirical result is consistent with the view that since companies regularly incur large expenses to maintain their goodwill, the economic value of goodwill diminishes at a speed slower than the 40-year amortization period currently allowed under APB No. 17. The findings appear to support the suggestion that corporations should be permitted to experiment with the incorporation of goodwill as an asset in the balance sheet *without* amortization where this can be justified, but subject to annual review on a systematic basis and, when necessary, appropriate write-down (see Radebaugh and Gray, 1993). The empirical evidence is least consistent with IASC's proposal of reducing goodwill amortization period to within five years indicating that such a policy not only will cause the reported goodwill to be more severely understated but also will make the reported goodwill less consistent with other assets reported in the financial statements.

The empirical evidence of this study was obtained using the balance sheet approach. A direct extension of this study would be to use the income statement approach to examine the market reaction to the goodwill amortization component of reported earnings. Future empirical research could also extend to other countries with different goodwill amortization policies. Such investigations can provide further evidence regarding the economic life of goodwill to the IASC and other accounting standard setting bodies for reconsidering the current goodwill amortization requirement.

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A Proposal to Form a Unified Chinese Public Accountancy Profession: An Academic Perspective

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Key words: British accountancy profession; Chinese auditing firms; Chinese CPA firms; Chinese regulatory authorities

Abstract: *There are now two officially and formally recognized sectors of public accounting and auditing in China: the accounting firms and the auditing firms. But the regulations governing each are almost identical, and they effectively differ only in that accounting firms are regulated by the Ministry of Finance, through the Chinese Institute of Certified Public Accountants, and auditing firms by the State Audit Administration (SAA). In this paper, the arguments used on behalf of each sponsor to justify its right to regulate public accounting/auditing are criticized by reference to the structure of the British accountancy profession; and it is proposed that there should be a unified profession, in which the title Certified Public Accountant is awarded as a professional qualification; while the license to practice as an auditor and perform statutory services is awarded by the SAA.*

Introduction

There are articles published in English which are written or co-authored by mainland Chinese, and which address or involve Chinese public accounting/auditing (e.g. Bai, 1988; SUFE, 1989; Lau and Yang, 1990; Skousen et al., 1990; Fang and Tang, 1991; Xu, 1992). However, these articles do not acknowledge the fact that there are actually two officially and formally recognized sectors of public accounting in China.[1] They either deal with one of them, or confuse them. In Chinese publications, accounting and auditing firms are also always dealt with separately. However, the conflicts, ignorance, and even vicious attacks between these two sectors are probably known to all Chinese readers who have an interest in Chinese practicing accounting

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and auditing. The parallel coexistence of accounting and auditing firms in China is considered to be a major problem which needs to be solved urgently. Indeed, the Chinese State Council is considering proposals to merge accounting and auditing firms to form a unified public accountancy profession. In this paper we aim, from an academic perspective, to present a proposal how best to unify the accounting and auditing firms in China. First, an introduction to the current status of accounting and auditing firms, and a comparison between them, is given, primarily from a regulatory perspective, followed by some of the arguments put forward by the public finance and state audit sectors respectively. A contrast with British practice is made, and the paper concludes with arguments for our own proposal.

Accounting and Auditing Firms: An Outline and a Comparison

We do not aim to trace the history of Chinese public accountancy, but just present an outline of current Chinese public accountancy and auditing, mainly from a regulatory perspective. As explained in Kohler's dictionary for accountants, public accounting, which usually includes auditing, means those services offered by the public accountant, which also usually includes the auditor, to the public generally as contrasted with the employment of a private accountant by a single organization (Kohler, 1975, p. 385). Based on this, the supply of public accounting in China, as officially recognized, can be divided into two sectors regulated by two different authorities. Accounting and auditing firms are two separate sectors in Chinese regulations and in the professional field although in some Western countries accounting firms include auditing firms.[2] However, whether from an ownership or from an operational perspective, accounting and auditing firms are in fact organized in completely identical ways at least as described in the relevant regulations (see Appendix I).

Both accounting and auditing firms are defined as "institutional units", which implies that they are not private. Actually, to Chinese readers, it is clear that all accounting and auditing firms in the present situation have a sponsoring unit behind them although both accounting and auditing firms as defined in the *CPA Regulations of the PRC* and the *Auditing Regulations of the PRC* are independent accounting and legal entities. It is not easy to explain why there is a sponsoring unit and what it really means to those who are not familiar with the Chinese social and economic environment. However, to the researchers' understanding, the "sponsoring unit" represents the ownership of the firm. Since the sponsoring units are normally state sector organizations, these firms are all taken to be "state-owned institutional units" when they register with industrial and commercial administrations. Further, it is true that from a national perspective most accounting firms are sponsored by the public finance departments while the majority of auditing firms are sponsored by the state audit departments.

Again, although both accounting and auditing firms are defined as "institutional units", unlike other institutional units, which fall into the state fiscal budget, both

are required to balance their revenue and expenditures by themselves through charging fees for their services and paying taxes according to law. Thus, in practice, they are more similar to business organizations than to normal institutional units.

The qualifying procedures and standards for becoming a certified public accountant (CPA) (or registered accountant) and a practicing auditor (or registered auditor) are essentially the same under the regulations. The Ministry of Finance (MOF) held the first and so far the only CPA examination in December 1991, while the State Audit Administration (SAA) has not held a practicing auditor (PA) examination yet. Further, the pass rate for the CPA examination was only 4 percent (Evans, 1992, p. 21). Thus the large majority of CPAs and all PAs are qualified through an "evaluation process." Moreover, a key criterion for becoming either a CPA or a PA is the qualification for assuming higher than intermediate technical titles or professional positions.[3] However, the qualifications for assuming technical titles or professional positions are uniformly regulated by the central government. Therefore, the professional competences of CPAs and PAs should not be different from each other if the regulations are properly observed.

The essential difference between accounting and auditing firms therefore lies solely in the fact that accounting firms are regulated by the public finance sector with the MOF as the "headquarters," while auditing firms are regulated by the state audit sector with the SAA as the "headquarters." The MOF and SAA, which are parallel departments, each organize their own examining board for the qualifying examination and evaluation for CPAs and PAs respectively. Also, their provincial agents organize corresponding local examining boards for detailed implementation. Since the establishment of accounting and auditing firms is separately approved by the public finance and state audit sectors, and furthermore CPAs can only work in accounting firms while PAs can only work in auditing firms, the certificates of a CPA and of a PA are mutually exclusive. Administrative regulations and professional standards concerning accounting firms (including CPAs) and auditing firms (including PAs) are also separately made by the public finance and state audit sectors.

Who Should be the Regulatory Authority of Chinese Public Accountancy/Auditing: The Public Finance or the State Audit Sector?

Bureaucrats in the public finance and state audit sectors generally ignore firms headed by the other in their publications and official addresses although they have been marketing their own regulated firms.[4] However, the existence of both accounting and auditing firms has led to many problems in the public accountancy/audit market (e.g., abnormal competition and duplicate audits), which have been widely acknowledged.[5] The public finance sector and state audit sector each argue the case why they should be the regulatory authority. For example, as reflected in the *CPAs Correspondence* (No. 4, 1989, p. 4), it is explicitly suggested that auditing firms (and other firms) should be either removed or reorganized in line with the *CPAs Regulations of the PRC.* This means that the public finance sector should be the

regulatory authority of the Chinese public accountancy and auditing. Again, for example, Li and Lin (1991, p. 7) explicitly suggest that accounting firms, as part of public auditing, should be under the leadership of the state audit sector according to the *Auditing Regulations of the PRC*; the state audit sector could arrange the audit work in a planned way and take full advantage of state auditing, internal auditing, and public auditing. Shen (1992, p. 15) states that efforts should be made to create conditions to streamline the relationship between accounting and auditing firms, so as to be beneficial to developing public auditing and to international exchange. As far as we are aware, their respective arguments, which have long been described separately mainly in their own publications, have never been examined and compared together although this is probably the most sensitive current issue in Chinese public accountancy. Probably because of its sensitiveness, officials and academicians are not willing to touch upon this issue.[6] However, although it is controversial to attempt to explore this issue in depth, it must be confronted in the interest of the profession as a whole.

Based on the relevant articles, the strongest argument from the public finance sector is that "governmental auditing" (i.e., state auditing) and "non-governmental auditing" (i.e., public auditing) should be clearly distinguished from each other. Auditing firms, which are labeled as having "blindly developed," are criticized and even viciously attacked on the grounds that the auditing firms sponsored by state audit departments have obscured the division between public auditing and governmental auditing. The following points are frequently included:[7]

(1) Some auditing firms are mixed with state auditing departments and even form part of the state audit departments, with "the same set of staff but with two different doorplates" and "one set of staff with two sets of faces."

(2) In some places, the director of the state audit department concurrently assumes the directorship of the auditing firm.

(3) Firms other than accounting firms all claim they are "serving" society, but actually they drum up business through their respective sponsoring authorities. It is their sponsoring authorities that transfer parts of their own administrative supervisory duties to their sponsored firms which thus become social services and accordingly are charged by the firms. All these firms do business within the scope which their sponsoring departments can reach.

(4) Some matters are clearly handled by state audit departments, but fees are charged in the name of auditing firms; some auditing firms become a source for state audit departments to "create income." An income-sharing arrangement exists between some auditing firms and state audit departments.

Therefore, the demarcations between "governmental auditing" and "nongovernmental auditing" are obscured which impairs the image of "governmental auditing" and also the independence of "nongovernmental auditing." However, the allegations are in fact examples of the violation of regulations concerning auditing firms. In regulations, auditing firms are subject to provisions which are the same as, and possibly more strict than, those for prescribing the independence of accounting firms.[8] However, for example, Xia (1991, pp. 18–9) argues that as auditing firms are

neither state auditing nor internal auditing there is no necessity for them to exist; only accounting firms can perform independent attestation on a third party status.

A further argument from the public finance sector is that CPAs are a world-wide recognized profession, and their reports enjoy high international authority. Accounting firms composed of CPAs are thus in line with international conventions and practice, while auditing firms are peculiar to China. Gu (1991, p. 4) wrote an article to introduce CPA matters when the Chinese Vice-Premier visited Shanghai and expressed his concern of the "CPA cause" in early 1991. Gu wrote that in foreign countries only CPAs exist in the sphere of public auditing, therefore they do not have the problem of the conflicts and confusions which exist between accounting firms and other firms (e.g. auditing firms and other similar firms) in China. Hu (1991) and Zheng (1991, p. 33), for example, judge that the audit of joint ventures with both Chinese and foreign investment by the state audit departments or auditing firms is not in line with international conventions; Zheng even asserts that doing so is not beneficial to the introduction of foreign capital.

The strongest argument from the state audit sector is that state auditing, internal auditing, and social (or public) auditing do and should constitute an "integral and uniform audit structure, network or system" in China. For example, Fu (1990, p. 34) states that the requirement for auditing firms to receive administration and supervision from state audit departments (i.e., article 33 of the *Auditing Regulations of the PRC*) reflects a distinctive feature of China's socialism. He identifies three features of Chinese social auditing in contrast with capitalist counterparts:

> Firstly, public auditing firms in capitalist countries mainly serve the private economy and they are in themselves privately owned; while our Chinese social auditing mainly serves the socialist economy based on public ownership, and social auditing firms are state-owned institutional units. Secondly, in capitalist countries, public auditing has nothing to do with state auditing, while in China social auditing, state auditing and internal auditing constitute an entire and complete auditing structure (network). Thirdly, in capitalist countries, profit-making is the purpose of public auditing firms, and their services are intended to earn high income; while in China, social auditing serves the development of the planned commodity economy, and charging fees for services is intended to recover costs to make the activity self-sustaining.

Therefore, Fu asserts that it is necessary for social auditing in China to receive administration and supervision from state audit departments, and that the "audit structure," in which "state audit is the principal element, internal audit is the basis and social audit is necessarily supplementary" is suitable for China's situation. Chen (1989, p. 18), for example, also states: "among our audit organizational structure, the state audit departments form the principal element, internal audit offices within sectors and units are complementary, and social auditing firms are necessarily supplementary."

There exists "another" view which describes the relationship between state, internal, and social auditing: state auditing is the body of the audit structure, internal auditing and social auditing are two wings; without any of these parts, the audit structure cannot function (e.g., Xie, 1987). These two views are popular in the auditing field (Zhang, 1991). Li (1991, p. 121) states the following after stating that foreign countries do not have auditing firms which are peculiar to China (p. 116):

> In 1980 when social auditing [i.e., public auditing in general] was re-established there was no state audit sector. Therefore, it was very natural for the public finance sector, which assumed supervisory functions, to guide the re-establishment work. However, at the end of 1983, the State Audit Administration was

established. Then, the state auditing certainly needed to keep in line with internal auditing and social auditing, so as to form an integral and uniform auditing supervisory network.

He continues to say that since the state audit sector cannot direct accounting firms which are governed by the public finance sector, it had to establish auditing firms as a part of the whole supervisory network. Shen (1992, p. 15) also attributes the coexistence of accounting and auditing firms to a very simple phrase, "historical condition," which presumably means that the public audit section was revived before the state audit sector was revived.

While the public finance sector argues that auditing firms are not in line with "international conventions," Ma (1992, p. 32) asserts that "the exercise of the *Practicing Auditors System* not only suits the development of our planned commodity economy, but is also a beneficial importation of foreign experiences." Shen (1992, p. 14) also states:

Social auditing organizations in our country (i.e., auditing firms – original) is a new audit sector which is established and developed based on the following conditions: to respond to a demand for developing a socialist commodity economy after the exercise of the "reform and openness"; to draw on the beneficial experience of foreign public auditing; and to take into account the circumstances of our country.

He continues to say that Chinese auditing firms are similar to foreign counterparts in that they all, from the standpoints of a third party, provide attestation and consultancy services independently, objectively, and impartially but they are different from foreign counterparts in that Chinese auditing firms must be under the administration and guidance of state audit departments.

We would argue that it is not important whether the auditor pertains to "governmental auditing," or "nongovernmental auditing," nor is it important that state auditing, internal auditing and public (or social) auditing should form an "integral and uniform audit network." The issue is the independence and competence of the auditor. What we need to ensure is the external auditor's status and his/her independence and competence, rather than the nature or the network of the auditors.

In our opinion, from a qualitative perspective there should not be any essential difference between accounting and auditing firms, although there may be some difference between them from a quantitative perspective (there are now significantly more auditing firms). Most accounting firms are established or sponsored by the public finance departments which are also governmental authorities with financial supervision functions, so how can it be said that the performing of audits by accounting firms is "nongovernmental auditing" on the grounds that accounting firms are not connected with state audit departments? The state audit sector argues that public auditing should be administered and guided by state auditing departments in China (implying its socialist nature). Actually the public finance departments are, like the state audit departments, also governmental financial supervisory authorities. The differences between accounting and auditing firms are merely superficial. In a real sense, both accounting and auditing firms mainly represent governmental financial supervision and are also administered and guided by governmental financial supervisory agencies. Therefore, the arguments of both the public finance and state audit sectors could equally apply for or against both accounting and auditing firms. If there are some practical differences between accounting and auditing firms in

their professional standards and practicing rules, they should be due to the enforcement of regulations rather than because of who should be the regulatory authority.

The concept of "international conventions" (*Guo Ji Guan Li*) is increasingly becoming "fashionable", and frequently appears in Chinese publications, and is used to argue either for or against new phenomena, without any clear definition or explicit explanation.[9] As far as accounting and auditing firms are concerned, we would argue that each of them may or may not be in line with "international conventions".

First, let us look at the West. As an example, in the United Kingdom anybody can call himself/herself a public accountant or consultant and is allowed to open a private firm providing services to the public. These firms can be called public accounting, auditing, and/or consultancy firms. But the government through legislation only approves specified individuals and groups to provide what it thinks of as socially important services. Each government approves their own "recognized auditors". There are, as such, no internationally accepted auditors, although some countries may recognize each others' auditors through negotiation and harmonization. In this sense, the international convention is that auditors who are qualified to provide statutory business must be recognized by the government. In China both accounting firms and auditing firms are recognized by the State Council so each of them is thus in line with the international convention.

Second, in America, Canada, and Japan, the designation CPA is used. In the United Kingdom, instead of CPA, the designations CA (ACA and FCA) or ACCA and FCCA are used. These titles only indicate professional qualifications. Auditing firms cannot be judged to be peculiar to China because they have no CPA titles. It is also inappropriate to say that accounting firms are in line with international conventions simply because they use CPA titles in English. In this sense, the international convention is that the statutory auditor should have a separate professional qualification denoting expertise which distinguishes him/her from other accountant. In China, while the accounting firm possesses the title *certified public accountant* (registered accountant), the auditing firm now has the title *practicing auditor* (registered auditor). Thus, in this sense, both of them are in line with the international convention.

Third, in China the large majority of accounting and auditing firms are established or "sponsored" by state organizations; their staffing is subject to the state "staff-quota" restrictions. They are "state institutional units" in nature, while in the Western world public accounting firms are independent private business firms or companies without connection with the state. In this sense, both accounting and auditing firms are not in line with the international conventions.

Finally, there are professional bodies in most Western countries. They are usually private organizations. The Chinese accounting firms have the Chinese Institute of Certified Public Accountants (CICPA) as their professional body, which is comparable with some Western counterparts. However, the MOF and local public finance departments are the real "power behind the throne"; indeed all staff of the CICPA are governmental officers and officials. Thus, the CICPA is in line with the international convention in name only. In China, there are also social auditing associations (or institutes) for auditing firms and their members,[10] although they are not as popular as the CICPA. Chinese academicians, in reviewing new developments

in Chinese accounting and auditing in English, also tend to write of the CICPA (e.g., SUFE, 1989; Fang and Tang, 1991). In this sense, it is the Chinese MOF and SAA that have the closest similarities with the Western professional bodies.

The particular case of the organization of the British accountancy profession is examined in Appendix II. But the plurality of professional accountancy bodies in Britain cannot be used to justify having two parallel regulatory authorities (both governmental) in China. The historical causes are very different. Nevertheless, there is a common factor in the continuing divisions among both the British public accounting profession and its Chinese counterpart, namely the factor of "political power". In the United Kingdom the professional bodies, as private organizations, have been making efforts both to preserve their individual statuses and to act with unity through the Consultative Committee of Accountancy Bodies (CCAB) with a view to avoiding governmental interference and thereby protecting their self-regulated status (e.g., Tricker, 1982). These private bodies want to retain and extend their political powers. In China, both the MOF and SAA are governmental authorities. They are each making efforts either to maintain or extend power through their respective accounting firms and auditing firms. This power struggle may help to explain the continued parallel existence of the two governing bodies of the public accounting/auditing professions in China. Indeed it is difficult to find any other rational explanation.

A Proposal for Unifying Accounting and Auditing Firms in China

As we have argued, as far as the current regulatory organization of accounting and auditing firms is concerned, no material difference can be seen between them. Given the fact that both accounting and auditing firms have now already been established throughout China, it is not advisable, and it is probably no longer practicable to suggest, that either the state audit sector or the public finance sector should now keep away from involvement in Chinese public accountancy and auditing. The state audit and public finance sectors should now negotiate with each other, rather than ignoring or criticizing the firms regulated by the other,[11] given that there is a common recognition that the Chinese public accountancy/auditing market should be unified and streamlined.

Moreover, in China, various public firms already exist, and probably more firms will emerge to provide "intellectual services" (including accountancy-related consultancy services) in the increasingly market-based economy with diversified ownership. It would be unwise and certainly inadvisable simply to prohibit them from existence or emergence.

We therefore propose that a licensing mechanism should be established to undertake statutory services (e.g., audits and capital verifications), and that the professional qualification is distinguished from the practicing licenses.

To elaborate this proposal: the functions of the certificates of CPA (registered accountant) and of PA (practicing auditor) should be redefined and distinguished. The certificate of CPA should indicate the holder's recognized professional knowledge

and competence, while the certificate of PA should recognize the holder's authorized rights to provide statutory services. Further, it is suggested that to acquire a PA certificate one should be a CPA, but a CPA certificate of itself would not guarantee that the holder automatically acquires a PA certificate. In other words, a CPA certificate is a prerequisite, but is not sufficient to acquire a PA certificate. Under this proposal, the qualifying body would be the public finance sector (through the CICPA) while the licensing authority would be the state audit departments. The CPA certificate would become a professional qualification, while the PA certificate would become a practicing license for statutory services. Further, it is reasonable that authorized auditors should be subject to more strict requirements and regulations than qualified accountants (i.e., CPAs) in general. In other words, some requirements and regulations are necessarily imposed on practicing auditors, but they may not be necessary for other practicing and nonpracticing accountants.

This proposal would achieve a compromise between the public finance and state audit sectors, which could probably be accepted by both sectors. The unification between accounting and auditing firms could then be achieved. Current accounting firms would need to apply for licenses from the state audit departments for providing statutory services, while current auditing firms would be required to have members who have been awarded the professional qualification, CPA, under the aegis of the public finance sector. Other firms, if they wish to provide statutory services, must also have members who are CPAs and be licensed by the state audit departments. Under this arrangement, accounting and auditing firms would reach an agreement and would be subject to the same set of professional and governmental regulations, and a unified public accountancy profession for China would be established.

Notes

1. Accounting and auditing firms (as will be seen in this paper) are both officially and formally recognized by the central government. There also exist some other public firms which provide similar services to accounting and auditing firms, but they are neither explicitly recognized nor clearly banned by the central government.
2. Generally when an accounting firm acts an auditor of a company, it can be called an auditing firm.
3. The intermediate technical titles (or professional positions) include accountant, auditor, and economist. Senior ones include senior accountant, senior auditor, and senior economist. These titles normally bear the same level of duties and benefits and indeed they may be transferable depending upon the division of posts and the administrative sectors.
4. For example, accounting firms were formally established in early 1981 upon the central government's regulation, and were, and still are, largely concerned with auditing activities. However, reports (which involve auditing firms) sourced from the state audit sector always tell the public that the "Chinese auditing cause" started in late 1983 (i.e., when the state audit sector was established) (see, for example, *People's Daily* (overseas ed.), March 13 and December 15, 1992).
5. For example, *CPAs Correspondence* is full of these reports; also see Li (1991, p. 124) and Li and Lin (1991).
6. The *CPAs Correspondence* is the professional journal for accounting firms, the CPA institutes, and the public finance departments. In general, auditing firms receive a very bad press in this *Correspondence*.
   Although it is still less than 10 years since the Chinese state audit sector was established auditing research institutes and societies have now been established throughout China, and research activities into auditing have been increasingly active. Interestingly, "CPA auditing" or "accounting firms" appear to fall outside their research scope although "social auditing" or "auditing firms" have been on top of their agenda. For example, in the journal *Shanghai Auditing* (by the Shanghai Auditing Society, and

Shanghai Auditing Science Research Institute), which has a special section dealing with "social auditing", auditing firms are presented as almost without fault, while accounting firms are almost completely omitted as if they did not exist at all.

7. See for example, the CICPA's investigative reports (*CPAs Correspondence*, No. 2 and No. 4, 1989); minutes of cooperative meetings of accounting firms (*CPAs Correspondence*, No. 6, 1991, p. 52); Accounting Firm of Jiangsu Province (1990); Zheng (1991).
8. In Regulations, both accounting and auditing firms are required to be independent in terms of finance and also in their professional practice. Staff currently working in governmental agencies are not allowed to be approved as CPAs while they are not allowed to assume any part-time posts in auditing firms. The *SAA's Regulations Concerning Social Auditing Work* particularly elaborate the "independent accounting entity" that "financial revenues and expenditures of an auditing firm, of its controlling state audit department, and of its sponsoring unit, must be strictly distinguished from each other, and cannot invade and occupy each other (art. 21)."
9. The term itself is not frequently seen in American and European publications, which is probably because regulations and practices in these countries are usually considered to be representative of international conventions. Instead, they refer to international harmonization and standardization. In the Chinese context, the term international conventions means those practices adopted in some Western industrialized countries, mainly in some English-speaking countries.
10. See, for example, *Shanghai Auditing*, No. 4, 1991, p. 21. The Chinese Association of Certified Public Auditors (CACPA) has recently been established by the SAA.
11. The ignorance or attacking is quite explicitly reflected, for example, in the *Shanghai Auditing* and the *CPAs Correspondence*. Further, it is probably true to say that the *Shanghai Auditing* tends to ignore accounting firms, while the *CPAs Correspondence* tends to criticize auditing firms.

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Appendix I: A Regulatory Outline of Accounting and Auditing Firms in China

Accounting Firms

The main regulation for accounting firms is the *CPAs Regulations of the PRC* (1986). Based on this regulation, the following features of Chinese accounting firms are outlined:

(1) Accounting firms, which are the working unit of registered accountants (commonly known in English as CPAs), are "institutional units" (or nonprofit organizations) approved by the State. They are independent accounting and legal entities. Registered accountants are not allowed to practice individually (i.e. sole practitioners).

(2) The regulatory authority for registered accountants and accounting firms at the national level is the Ministry of Finance (MOF); at the local level, the regulatory authority is the public finance department (or bureau) of a province, an autonomous region, or a municipality directly under the central government.

(3) The establishment of an accounting firm shall be reported to the MOF or to a provincial public finance department (or bureau) for review and approval.

(4) When a registered accountant leaves an accounting firm, his/her registered accountant certificate shall be revoked.

(5) There are two routes to acquire a registered accountant certificate: through the written examination or through the evaluation process. Staff currently working in governmental agencies are not allowed to be approved as registered accountants (or CPAs).

Auditing Firms

There are three main regulations for auditing firms. They are *Auditing Regulations of the PRC* (1988), *Practicing Auditors System* (1991), and the *SAA's Regulations Concerning Social Auditing Work* (1989). Based on these regulations, the following features of auditing firms are outlined:

(1) Auditing firms, which are the working units of practicing auditors (PAs) (also known as registered auditors), are "institutional units" (or nonprofit organizations) approved by the State. They are independent accounting and legal entities. Practising auditors are not allowed to practice individually (i.e., sole practitioners).
(2) At the national level, the regulatory authority for practicing auditors and auditing firms is the State Audit Administration (SAA); at the local level, the regulatory authority is the state audit department of a province, an autonomous region, or a municipality directly under the central government.
(3) The establishment of an auditing firm shall be approved by the SAA or a provincial state audit department.
(4) When a practicing auditor (or registered auditor) leaves an auditing firm, his/her practicing auditor certificate shall be revoked.
(5) There are two routes to acquire a practicing auditor certificate: through the written examination or though the evaluation process. Staff currently working in the state audit departments, or other Party or governmental agencies are not allowed to take part-time posts in auditing firms.

Appendix II: Contrasts Between the British and Chinese Structure of the Profession

In Britain, the auditors of limited companies are normally chartered accountants and certified accountants. However, chartered accountants are mainly governed by the three chartered bodies, which have their joint disciplinary committees, while certified accountants have their own professional body, the Chartered Association of Certified Accountants (ACCA). These professional bodies are independent of each other and maintain their own independent headquarters. Membership of these bodies is recognised by the government. There is no difference between chartered accountants and certified accountants with regard to their business scope. In China, accounting firms and auditing firms are respectively regulated by the MOF and the SAA. In other words, the MOF and the SAA each make their own regulations and procedures on the matters concerning accounting firms and auditing firms respectively. In brief, the public finance departments and their regulated accounting firms, and the state audit departments and their regulated auditing firms, are on two parallel lines.

One might see there is a parallel with the British situation. That is, the MOF and the SAA could be compared with, respectively, the ICAEW and the ACCA with regard to their administrative functions towards their members (including firms). Thus, the MOF and the SAA are independent of each other, each making its respective policy concerning examinations, admissions, registration, practicing rules, professional

ethics, discipline, etc. However, in contrast to the British counterparts there does not seem to be the same historical justification for the Chinese situation.

First, in the earliest history of the British accounting profession, there were three societies of accountants in Scotland and there were numerous societies in England and Wales. These societies were initially formed within regional localities (ICAEW, 1966). They were also voluntarily formed by the practicing accountants of the time as private bodies. This practice was partially justified by the lack of development of communication facilities at the time. However, in China, accounting and auditing firms were created in times of modern communication and administered from a national perspective and by the government from the very beginning. Thus, from inception, there was no good reason for two governing headquarters to coexist side by side.

Second, in the British case, since all these societies were private bodies, some of the earliest societies were hostile to the emerging ones (ICAEW, 1966; Parker, 1986). However, in China both the MOF and SAA, and their local agents, are governmental authorities, so there is no justifiable reason for either to be hostile to the other.

Third, with the development of communication and the policy of professional societies approaching each other, the Scottish Chartered Institute was formed from a combination of three separate bodies, and the ICAEW was formed from the integration of some of the numerous bodies then in existence. However, in China, the policy concerning CPAs and PAs is essentially the same, and accounting and auditing firms are also the same as regards their operational nature and ownership. In this respect there is no necessity for them to be under two separate headquarters.

Fourth, even in the 1970s, the existing professional bodies in the United Kingdom made an effort to combine with each other with a view to bringing benefits to the profession as a whole. But, given that these bodies were private bodies and chartered accountants desired to preserve the prestige attached to "chartered", this effort failed. As a result, the CCAB was formed to coordinate professional activities where possible. In China, both the MOF and the SAA are central government authorities under the State Council, neither accounting nor auditing firms enjoy any prestige, and indeed they are all state-owned in a sense. It should, therefore, have been easy for the governing headquarters to negotiate and reach agreement. This is particularly necessary when the parallel existence of accounting and auditing firms under two different masters has commonly been considered to have many disadvantages without a single benefit to the profession.

Fifth, in the United Kingdom, chartered accountants and certified accountants may join each others' firms, and undertake business cooperations; a certified accountant can also qualify as a chartered accountant, or vice versa, if he/she wishes and some exemptions are possible. However, in China, a CPA cannot join an auditing firm, and a PA cannot join an accounting firm; the PA certificate and CPA certificate are mutually exclusive. It is even specified in the *Regulations of Ethics for the CPA Profession in Shengzhen City* (January 17, 1991) that CPAs and their accounting firms must not undertake business cooperations with auditing firms on an income-sharing basis. These points are clearly not beneficial to the public accountancy profession as a whole.

Finally, there is a potential problem for the profession, which is due to the coexistence of accounting and auditing firms under two headquarters. In the United Kingdom chartered accountants and certified accountants may be subject to different professional regulations, but when they practice they are subject to the same legal/governmental regulations. However, in China, both MOF and SAA are central governmental authorities, and thus accounting firms (including CPAs) and auditing firms (including PAs) may actually be subject to different governmental regulations where these regulations differ.

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The Incidence, Nature, and Impact of Extraordinary Items on Earnings: An Exploratory Study for Hong Kong

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Key words: Extraordinary; Incidence; Earnings; Hong Kong; Smoothing

Abstract: *This study compares the treatment of extraordinary items in Hong Kong to what has been learned elsewhere. Extraordinary items occur frequently in this setting with an occurrence rate ranging from 25 to 36 percent across all listed companies over a five-year reporting period. Most items have a positive impact on income and arise from property sales in an ebullient market. Evidence of smoothing of income and of the "big bath" phenomenon (see for example, Elliot and Shaw (1988)) found elsewhere is not evident here. Also rejected is the "large company" thesis which claims larger businesses will attempt to defer or conceal income due to political pressures. In sum, due to an array of social, commercial, and tax considerations, Hong Kong companies attempt to maximize current income. In short, success is celebrated rather than punished in the laissez-faire business environment of Hong Kong. Finally, proposed changes to corporate reporting in Hong Kong mean that extra-ordinary items will soon be all but eliminated. While the exclusion of such items will not make any significant difference to overall income figures, the proposed changes will allow a more detailed and meaningful analysis of corporate income to be made bearing in mind the rather liberal usage of extraordinary income to date in the Territory.*

Introduction

A notable feature of corporate accounts in Hong Kong is the relatively high incidence rate of extraordinary items. The recurring nature of these items, across time and firms, suggests patterns of usage that belies the description or prefix "extraordinary". To illustrate this point, of the 374 stocks listed on the Stock Exchange of Hong Kong (SEHK) as of December 1992, corporate income statements for 229 of the stocks contained reference to extraordinary items at least once during the preceeding

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five years of corporate accounts. Furthermore, for the most recent set of accounts disclosed, as of December 1992, 134 of the 374 listed stocks utilized an extraordinary item in their corporate income statements. This indicates an incidence rate of 35.8 percent in extraordinary items for the most recent set of Hong Kong accounts and, as implied above, suggests that such items represent a rather ordinary occurrence in the context of Hong Kong corporate reporting.

Given the above background, it is obviously important to ask why such items occur so frequently and, moreover, how such items impact upon corporate performance. Given the absence of research directed towards this end in Hong Kong, and the paucity of research internationally in this area, an exploratory investigation to answer these questions is warranted. In conducting this investigation, three areas of analysis will be examined. First, the relative incidence and nature of extraordinary items in Hong Kong will be documented and scrutinized. Given a detailed clarification of this incidence rate, attention will then focus in a second stage of analysis on the characteristics of the corporations associated with such extraordinary items. Attempts will be made here to establish whether factors such as firm size, industry, earnings performance, and growth correlate with the incidence, size, and direction of extraordinary items. Finally, in a third area of analysis, attention will focus on the impact of the recorded extraordinary items on corporate performance. This area of analysis is interesting given some recent evidence in this area in Craig and Walsh (1989), Easton (1990) and Walsh et al. (1991) for extraordinary items in Australia. Despite these documented findings, it is unclear how such items might impact upon the pattern of corporate earnings in Hong Kong given the differing institutional and accounting structures operating in the Territory relative to those in Australia and other markets.

In carrying out the proposed investigations set out above, the paper will be structured into four sections. Following this introduction, section 2 of the paper will describe the data to be scrutinized and the nature and incidence of extraordinary items in Hong Kong. Section 3 will then involve an examination of the hypotheses to be investigated with section 4 reporting empirical results. Finally, section 5 of this paper provides conclusions and summary discussions

2. The Nature and Incidence of Extraordinary Items in Hong Kong

The working definition for an extraordinary item (EI) in Hong Kong follows Statement 2.102 (SSAP 2) of the Accounting Standards and Guidelines (ASG) published by the Hong Kong Society of Accountants (HKSA). Within this statement, an extraordinary item is defined as:

> those items which derive from events or transactions outside the ordinary activities of the business and which are both material and expected not to recur frequently or regularly. They do not include items which, though exceptional on account of size and incidence (and which may therefore require separate disclosure), derive from the ordinary activities of the business. (see Statement 2.102 (part 2) of the ASG of the HKSA)[1]

Given the above definition, the casual observer might expect a fairly unambiguous distinction to be made between "extraordinary" and "ordinary" accounting items.

This view, unfortunately, is a rather simplistic one given the difficulties involved in interpreting the working rule outlined. For example, the notion of materiality referred to in statement 2.102 cannot be easily quantified and, as a result, is open to some interpretation. This is further compounded by noting that the inclusion of an EI in a set of accounts is discretionary. This suggests that the working definition used for an EI is only a guiding rule and that its usage may, to a certain extent, be context driven. To evaluate this, careful srutiny of the circumstances under which EIs arise in Hong Kong might be helpful.

One way to evaluate the application of the working rule defined is in terms of the actual incidence in EIs. As noted earlier, and in the definition cited in Statement 2.102 of the ASG, one would expect EIs to occur rather infrequently. However, cursory inspection of corporate accounts, across firms and time, suggest that this is probably not the case. In quantifying this insight, the accounts of all firms listed on the SEHK as of December 1992 were investigated. The list of firms quoted on the SEHK at this time was obtained from the trading summary disclosed in the SEHK's *Securities Journal* (February 1993). This summary indicated that 383 ordinary stock listings were available for scrutiny. From these firms, reference was made to Hong Kong based *Wardley Cards* for the necessary financial accounting information for the listed firms. Sets of accounts offering up to five years of summarized balance sheets and income statements were duly obtained from this source. However, the absence of accounting information on stocks with secondary listed market status in Hong Kong (and primary listed status elsewhere) in the *Wardley Cards* reduced the available sample size from 383 firms to 374.[2]

Number of stocks listed on the SEHK as of December 1992		=	374*			
Number of stocks listed with one or more extraordinary items (EI) reported in the preceding 5 years of accounts		=	229			
Incidence rate for at least one (EI) in corporate accounts for preceding 5 years		=	61.2%			
		t–1	t–2	t–3	t–4	t–5
Number of EIs in corporate firms over previous 5 years of accounts	[(1)]	134	114	93	103	97
Number of available firms with complete income statements	[(2)]	371	370	363	333	283
Number of firms with missing† income data	[(3)]	3	4	11	41	91
Total number of firms examined [Rows (2) + (3)]	[(4)]	374	374	374	374	374
Number of EIs as a proportion of market (row[1]/row[2]) (%)	[(5)]	36.1	30.8	25.6	30.9	34.3

*Only includes stocks with primary listed status in Hong Kong and obviously excludes listings in warrants, preferred shares, and mutual funds quoted on the SEHK.
†Missing data typically occurs because data on firms prior to listing are excluded from the information shown in the Wardley cards.

Fig.1. The incidence rate of extraordinary items (EIs) in the Annual reports of companies listed on the Stock Exchange of Hong Kong (SEHK).

Despite this slight reduction in sample size, the summarized accounting information available through the *Wardley Cards* allows a meaningful distinction to be made between those firms associated with EIs in Hong Kong and those that were not associated with such items. This distinction is indicated in Fig. 1, where it is noted that 229 of the 374 firms open to scrutiny disclosed at least one extraordinary item in their accounting income statements during the preceding five-year period in their corporate accounts. This indicates a surprisingly high incidence rate across the 374 firms of 61.2 percent. Furthermore, for each of the five years of accounts referred to in Fig. 1, an incidence rate for EIs, across the firms scrutinized, of between 25 and 36 percent is apparent for particular accounting years within the five-year time frame. This again is indicative of a high incidence rate in EIs and, more importantly, indicates a greater propensity, on the part of Hong Kong firms, to adjust their earnings through EIs when compared to firms in the United States. Jordan et al. (1988, pp. 44), for instance, note an incidence rate in EIs in the United States of 13.5 percent across a sample of approximately 1800 corporate reports for accounting year ends recorded in 1988. While the Jordan et al. study does not allow a direct comparison with EIs recorded in Hong Kong, given the differing accounting guidelines in these markets, it is important to note that the salient characteristics of an EI identified in SSAP 2 in Hong Kong are also apparent for EIs in the United States. In particular, Jordan (1984, pp. 43–44) notes that guidelines in the United States suggest that an EI should be unusual, non-recurring in particular firms and material in terms of size. These guidelines clearly mirror those set out in SSAP 2 for Hong Kong firms.

As well as assessing the incidence rate in EIs, useful background information on the nature of the EIs can be obtained by examining the sign (or direction) of the adjustment. In general terms, the use of an EI gives rise to either profit "write-downs" or "write-ups". The former change has featured in the recent literature (see for example, Elliot and Shaw, 1988) and has been described, in a number of publications, with reference to the metaphor "big bath accounting". This metaphor implies that corporations may be inclined to use "write downs" to reduce profits significantly and, in the process, provide a spring board for future growth in the firm's return on equity or capital employed. While attention has been devoted to this well-publicized use of extraordinary items (see Walsh et al. 1991, p. 173–177, for a detailed review of this material), relatively little attention has focused on the use of "profit write-ups" (see Walsh et al, 1991, p. 178, however, where "write-ups" may be regarded as part of the "big bath" conception). This may be something of an oversight given the importance of "write-ups" in the inflation of accounting profit which may, in turn, enhance investors' perceptions of corporate performance.

In assessing the relative importance of profit "write-ups" and "write-downs" in the application of EIs in Hong Kong, reference should be made to Table 1. From this information, it is clear that EIs figure more significantly as profit "write ups" than as "write-downs" in Hong Kong. To illustrate, where EIs are recorded in corporate accounts, the percentage of positive items fluctuates between approximately 56 percent and 78 percent of all items recorded across the five years of pre-December 1992 accounts considered (herein referred to as accounts for periods T-1, T-2, T-3, T-4, and T-5). The predominance of positive EIs over negative EIs is also confirmed statistically given significant Sign (Z)[3] test results, at the 5 percent level for one-

Table 1. Descriptive statistics for the extrordinary items (EIs) across the sample of Hong Kong listed firms

	EI_{T-1}	EI_{T-2}	EI_{T-3}	EI_{T-4}	EI_{T-5}
Mean (HK$000)	30151.2	18878.9	33421.6	23699.8	36797.1
St.Dev (HK$000)	142142.5	129518.8	228229.92	127751.6	176007.4
No. cases where EI ≠ 0 (See row (1), Fig.1)	134	114	93	103	97
All Cases	**229**	**229**	**226**	**216**	**192**
Positive cases (EIs > 0)	83	72	52	76	76
Negative cases (EIs < 0)	51	42	41	27	21
Zero cases (EIs = 0)	95	115	133	113	95
% of positive cases where EIs recorded	61.9	63.2	55.9	73.8	78.4
% of negative cases where EIs recorded	38.1	36.8	44.1	26.2	21.6
Sign tests **Z statistic** (between PBE and PBE + EI)	**2.68****	**2.72****	**1.04**	**4.73****	**5.48****

Key:

EI_{T-1} refers to the Hong Kong dollar value of an EI reported for Hong Kong companies for the most recent year of available accounts in the company.

EI_{T-2} EI_{T-3}, EI_{T-4} and EI_{T-5} refer to EIs reported in Hong Kong companies for the second, third, fourth, and fifth most recent set of accounts available in the respective companies.

PBE Refers to profits before EIs and is used to conduct sign tests for the differences between variable PBE and variable PBE + EI across all of the firms' accounts for each of years t-1, t-2, t-3, t-4, and t-5.

** Significant one-tailed Sign (Z) tests, at the 5% level, between variables PBE and PBE + EI in a respective year of the pre-December 1992 accounts considered.

tailed tests, between a variable for profits before extraordinary items (PBE) and a variable for profits after extraordinary items (PBE + EI) for each firm across all of the pre-December 1992 set of accounts considered for that firm. In actual fact, application of this test, for each of the accounting periods (T-1, T-2, T-3, T-4, and T-5), reveals the dominance of positive EIs for four of the five accounting periods considered at the significance level stated.

In addition to the dominance of positive EIs or profit "write-ups" it is also apparent (see Appendix 1) that, in terms of absolute size, positive EI adjustments are, in general terms, significantly larger than negative EI adjustments. This can be seen from inspection of the descriptive statistics in Appendix 1 and from Mann–Whitney *Z* tests across subsamples for the positive and negative EIs in each of the periods. The Mann–Whitney statistic is used in this context given the unequal size of subsamples for positive and negative items and the difficulties involved in determining the distribution form across the EIs (particularly in subsamples where a small number of items are examined).

Given the background results described in both Table 1 and Appendix 1, the significance of any "big bath" effect (as defined in Elliot and Shaw (1988)) in the use of extraordinary items appears questionable. While it may operate for particular firms, the results documented thus far for the Hong Kong market suggest that EIs if used are more likely to be positive than negative and, even in cases where they are negative, the likelihood is that they will be relatively small. Both of these observations, as indicated in the introduction to the paper, run counter to the "big bath" effect documented in other markets (see, for example, Elliot and Shaws's (1988) analysis of EIs in U.S. corporate accounts).

Finally in this section, background information on the underlying uses for the extraordinary items are assessed. From the descriptions for the EIs given in the *Wardley Cards*, these descriptions allow items to be categorised into six broadly defined uses. This in turn allows a categorical variable EIUSES to be defined and coded from value one to six. A full description of this variable is shown in Fig. 2.

In coding each EI in accordance with this categorization scheme set out in Fig. 2, some difficulties arose in cases where more than one use was stated. In cases where the majority (more than 50 percent) of the item could be attributed to one of the uses identified, a coding of either 1, 2, 3, 4, or 6 was given. Where this was not possible, given multiple uses stated, a coding of 5 was recorded instead.

In terms of the spread of values for variables EIUSES, frequency distributions for the variable (see Appendix 2) indicate that asset sale/discontinuances (value = 1 for EIUSES) figure prominently as a reason for firms reporting EIs in Hong Kong. This observation appears to be true across all five of the years of accounts considered and helps to reinforce earlier evidence suggesting that EIs are more likely to be positive than negative for Hong Kong firms. Furthermore, the sale of assets and discontinuances are likely to generate considerable profits which may account, in part, for the dominance, in absolute HK dollar terms, of positive EIs over negative EIs.

While the sale of properties and other assets may appear, at first sight, to be part of the ordinary day-to-day activities of a company, it is worth noting that profits from the sale of assets can be recorded in extraordinary item form if, initially, the assets were acquired for non-trading purposes. Indeed, Yuen (1990, p. 38), with reference to SSAP 2 and guidelines issued by the HKSA for SSAP 2 in the form of a Technical Bulletin (TB6, 1985),[4] allude to this point by noting that:

> It is quite common in some cases for property development or investment holding or shipping companies usually to treat any profits or losses on disposal of properties, investments or ships respectively as extraordinary items even though these items are related with their principal activities. The reason to support such classification is mainly due to the lack of intention of re-selling these assets from the viewpoint of the companies (see Yuen 1990, p. 38)

Code	Description
0	No Extraordinary Item reported (EI = 0)
1	Asset sales/discontinuances
2	Diminution in value of assets
3	EI in subsidiaries
4	Reorganizations
5	Other or multiple reasons
6	Share transactions (i.e., interest on new subscriptions)
9	Missing information

Fig 2. Description of variable EIUSES used to capture the reasons underpinning the usage of Extraordinary items (EIs).

Given the above interpretation, it can be argued that firms in Hong Kong may be motivated to record profits from the sale of assets as extraordinary items to shelter income from corporate tax (= flat 17.0 percent for 1987–89; 16.5 per cent for 1990–92). Recording the profit from sale as a "normal" profit would probably result in a tax liability with the Inland Revenue (IR) in Hong Kong. However, classifying the profit as an EI might place the firm in a stronger position to avoid profit's tax. Despite this, the IR can reclassify an extraordinary item into a normal profit item and thus charge tax on the profit if they feel that such a move is justified for tax purposes.[5]

3. Hypotheses to be Examined

Given the background information outlined for EIs in Hong Kong, attention is now turned to the explanations underpinning the general pattern of EIs through time and across firms. In considering this issue, a number of hypotheses are presented in this section. These hypotheses reflect both considerations set out in the literature and the descriptive statistics presented earlier in this paper.[6] Not all international evidence in this area is relevant to Hong Kong. The frequent occurrence of the items and their positive effects on income mean that the results obtained here do not conform to the findings elsewhere. However, at the outset, we have no reason to ignore or delete certain considerations which may or may not be pertinent to the nature of extraordinary items in the Hong Kong market.

The first hypothesis of interest focuses on profit smoothing. This possibility should be considered given a corporate managers's latitude in influencing the timing of EIs. Managers can, for example, hasten the write-off of major assets, sell off assets or divisions all at once, or even sell off parcels of assets spanning over several fiscal years. While practitioners may "suspect" some smoothing of earnings in Hong Kong, no statistical or published anecdotal evidence is known to the authors, at the time of writing, to support this contention. Despite this, the data in this study lend intuitive support to the profit-smoothing hypothesis given that many of the firms in this study sample report EIs year after year where, in many instances, the items are derived from the same source (see, for example, the use of asset sales in EIs highlighted in Appendix 2).

To test the incidence of profit smoothing, earnings before and after extraordinary items are compared statistically using a mean-variance approach. Profit smoothing is judged to occur when a statistically significant difference is observed between operating and total income at the 5% level. Accordingly, the first hypothesis, H_{1N}, is formulated as follows:

H_{1N}: Companies use extraordinary items (EIs) to smooth income and, as a result, reduce the volatility of earnings through the use of EI adjustments.

In testing H_{1N}, two approaches are suggested. First, comparisons of the coefficient of variation (CV) of earnings with and without EIs can be made across the five years of available accounts in this study sample (CV approach to smoothing is also noted elsewhere, see Craig and Walsh (1989) for example). If income smoothing is evident, one would expect EIs to reduce the CV in earnings. A more refined test can also be

performed for H_{1N} by assuming some time-series properties in earnings and using these properties to form an expectation of net earnings which in turn, can be compared to actual earnings (before extraordinary items) to directly test the profit-smoothing assertion.

While an understanding of the underlying determinants for EIs is valuable, it is important to note that extraordinary items will soon be of historical interest only given plans to virtually eliminate them from corporate accounts in Hong Kong after 1993 (see Hewett, 1993a for a recent discussion of these plans). The elimination is being made to change the basis of Hong Kong accounting principles from British to international standards as promulgated in the International Accounting Standards (IAS) Exposure Draft 46. Exact details of the new standards in Hong Kong had not been decided at the time of writing (June 1993), but what was clear was the intention to eliminate the vast majority of EIs by recording the majority of these occurences as a part of "normal" profits. In eliminating them, it is assumed by accounting legislators that these items, at best, provide little or no information of value and, at worst, impede the clear communication of information to accounting users (see Hewett, 1993b, for further discussion of this view).

If the above view is correct, EIs should make little difference to income evaluation. Predictability of income should be the same for companies with and without these items Cameron and Stephens (1991, p. 94) conclude, however, that earnings predictions are worsened by grouping non-recurring adjustments with other sources of income. EIs may, therefore, be an important conception in defining income. This possibility is considered in hypothesis H_{2N}:

H_{2N}: Extraordinary items have important informational content for financial statement users as their exclusion impairs the users' forecasting accuracy (for earnings).

To test the hypothesis we refer to the test on profit smoothing. If the profits differ significantly after adjusting for EIs, then the conclusion is that single source income statements deprive users of important information which can be used in forecasting financial results.

Craig and Walsh (1989, pp. 240–241) note that larger companies are more likely to be inclined towards smoothing activities than their smaller counterparts. Reference to firm size in income smoothing is a recurring feature in the relevant literature. It is assumed, for example, that large firms will choose accounting procedures to reduce reported profits because those firms are subject to considerable public and political scrutiny (see Watts and Zimmerman, 1986, Chapter Six for a discussion of income smoothing in relation to earnings forecasts). Large utility-based companies, for example, are frequently asked to explain "windfall" profits that are alleged to have arisen from predatory pricing policies (due to their assumed "natural monopoly" status). Craig and Walsh (1989) also recognize the importance of firm size in terms of the public visibility argument by noting that:

> A large company reporting a large percentage increase in annual profits is likely to attract substantial media attention, inducing responses of a type unfavourable to the company. Governments may withdraw subsidies and tax concessions; labour unions may lodge claims for increased wages; consumers may call for price controls; competitors may complete more vigorously in a market perceived as highly profitable (See Craig and Walsh, 1989, p. 233).[7]

In a more descriptive study of EIs, Jordan et al. (1990) demonstrates that the size of an EI differs with the size of the firm. Jordan et al. divided 243 companies reporting

EIs in 1988 into large and small groups based upon sales. They found that "the medium materiality threshold was significantly smaller for the large firms" (see Jordan et al. 1988, p. 45). Why this occurs is reasoned as follows:

> The risks or consequence of omitting a material item increase as the size of the firm increase. This is because more users rely on the financial statements of a larger firm than on the financial statements of a smaller firm. Thus materiality levels for larger firms are often set at lower percentages than they are for smaller firms. (Jordan et al. 1990, p. 45).

Another manifestation of the large firm hypothesis is in the forecasting of earnings. Cameron and Stephens (1991, pp. 85, 93), for example, demonstrate that firms with more than US $100 million in sales have more stable earnings than those under $10 million. However, they note that this relationship is weakened if the forecast is made for total income rather than for operating income alone.

In general terms, the studies cited above suggest two hypothesis in relation to firm size. These are set out formally in hypothesis H_{3N} and H_{4N} below:

H_{3N}: The incidence and relative size of EIs differ significantly between large and small firms, with large forms having a higher incidence rate and relatively higher levels of EIs.

H_{4N}: The materiality of EIs differs significantly between large and small firms, with large firms having a lower materiality level in EIs than small firms.

"Large" and "small" are defined in this study on the basis of net assets or owners' equity with the Hong Kong firms subdivided into two equally sized groups (as in Jordan et al. (1990, p. 45)) using the median size of net assets, across the firms of interest, as the cut-off point (to define "small" and "large" firms). Given this cut-off point, absolute and relative levels of EIs are compared across two groups of firms to detect any significant differences in the incidence, relative size, and materiality of EIs between large and small firms. Parametric *t* and non-parametric Wilcoxon Sum of Ranks tests will be used in this connection.

Our fifth and last hypothesis concerns the industry grouping of firms. Hong Kong is well known as a speculative and adventurous market where risk and return are very high. In recent years, for example, the Hong Kong stock market has had annualized returns of considerable range and volatility. As an indications of this, Lock (1992, p. 11) notes annualized returns on the Hang Seng Index ranging between 10 and 42 percent or more over the trading years 1987–91.[8] These volatile swings can, in large part, be accounted for by the concentration and riskiness of the property and finance sectors (nearly a half of all listings) which differentiate Hong Kong from other locales. Companies in risky businesses encounter events out of the ordinary more frequently than companies in other sectors and during the period of this study many extraordinary items arose from property sales (as already discussed). During this time, Hong Kong also experience a sustained property boom which the property and finance companies (which tend to have large property holdings) stimulated and prospered from. Because of this boom in property values, the property and finance companies could be expected to report more extraordinary items than other companies.

Documentary evidence for the dramatic surges in property values are found in Appendices 3(a) and 3(b), which provide the indices and year-on-year percentage changes for Hong Kong's major property sectors (office, industrial, retail, and residential) for the period of this study. Especially large appreciation is found across

all sectors in 1987, 1988, 1991, and 1992, while performance is negative or spottier in 1989 and 1990.

Even though they are in the business of property, property companies can treat their sales as extraordinary items for several reasons.[9] First, some of these companies are more diversified than others and may be able to treat the gain as being outside the ordinary limits of their main business (see earlier discussion in section 2 of this paper and the HKSA's Technical Bulletin (TB6, 1985, paragraph 12)). Second, subsidiaries could report the gain rather than the main company (even though the parent controls the subsidiary). Third, the company would be motivated to report the item as extraordinary because Hong Kong has never taxed capital gains. Moreover, and as noted earlier, tax officials in Hong Kong tend to use the accounting reports in tax audits and if a company does not classify a sale as an EI in its public accounts it has a weak argument for tax exclusion. This is not to say that the exclusion will be granted automatically, but it means that without such an initial claim the company's transaction would likely have unfavorable tax consequences (being subject, in such cases, to the corporate tax rate of 16.5 or 17 percent which is applied to all non-extraordinary profits).

Given the above comments, we posit a relationship between industry classification and extraordinary items as follows:

H_{5N}: The size and incidence of extraordinary items will be higher for property and financial firms than for firms in other sectors.

4. Results

In testing hypothesis H_{1N}, outlined in section 3, the coefficient of variation (CV) for earnings before and after extraordinary items are computed across the five years of available earnings data in the HK firms.[10] This measure or ratio of the standard deviation of earnings to mean earnings helps to capture the volatility of earnings for a given mean dollar amount of earnings and, if as hypothesized in H_{1N}, EIs are used to facilitate income smoothing, one would expect a lower CV in earnings after EIs than for earnings before such adjustments have been made. It is important to note that the CV measure provides a useful insight into income volatility, and hence smoothing, where a relatively short time-series of income numbers is available. In other studies, where a longer time series of earnings is available (see Craig and Walsh, 1989, pp. 237–239), the smoothing hypothesis can be examined in more complex terms using time-series models of earnings.

In the present study, the CV approach is more appropriate for several reasons. First, complex time-series forms typically work with large data series for which underlying and structural conditions are unlikely to be stable for extended periods of time. One way of adjusting for this problem is to use shorter duration periods which means semi-annual or quarterly reports (such an approach is used by Easton, 1990, who studied half-yearly reports and traced EIs to the actual month of occurrence). In Hong Kong, only annual earnings are available and in many companies are only available for relatively short periods of time. For the data construction and theoretical reasons noted above, some justification for the use of the CV approach in the examination of income smoothing can be made.

Table 2. Mean profit and coefficient of variation before and after EIs over five years of available accounts

Variable	(HK$000s) Mean	(HK$000s) Standard deviation	*n*
Mean profit before EIs (PBEI)	$190 946.27	$548 351.75	192
Mean profit after EIs (PAEI)	$221 816.00	$621 347.57	192
t test of the difference between means of PBEI and PAEI	–0.516		
Coefficient of variation before EIs (**CVBEI**)	0.38	2.33	192
Coefficient of variation after EIs (**CVAEI**)	0.74	3.71	192
t test of the difference between means of CVBEI and CVAEI	–1.139		

** One-tailed *t* test significant at the 5% level.

The results of the test for smoothing are shown in Table 2 and, in general terms, indicate the absence of smoothing across corporate Hong Kong earnings. In this connection, a one tailed test on income differences before and after extraordinary items yields a t-value of –0.516. The same test on the CV produces a *t*-value score of –1.138. Hence, both the differences are insignificant at conventional levels.

Given the above results, the second hypothesis, H_{2N}, relating to the informational content of EIs, is also thrown into doubt. According to the results obtained here, these items do not contribute to the assessment of income because their exclusion from operating income makes no significant difference in the computation. Given this, their inclusion as a part of operating income in the future should not necessarily make forecasting more difficult.

Why should these results occur? As already seen from the descriptive statistics (and as reconfirmed above in Table 2) the EIs increase profitability. "The big bath" hypothesis is clearly not evident in the Hong Kong setting. Firms are not trying to suppress earnings. Hong Kong business conditions (to be discussed in the conclusion) also contribute to the non-smoothing of income (e.g. regressive tax rates, *Laissez-faire* business environment) and help to explain why firms are largely indifferent to the actual source of income disclosed.

The third and fourth hypotheses are concerned with the impact of firm size on the incidence and relative scale of extraordinary items. For reference, these hypotheses are repeated and shown below:

H_{3N}: The incidence and relative size of EIs differs significantly between large and small firms, with large firms having a relatively higher EI level.

H_{4N}: The materiality of EIs differs significantly between large and small firms, with large firms having a larger materiality level in EIs than small firms.

The raw data for the comparison of large and small firms for the five years of the study are tabulated in terms of both absolute and relative size. With respect to the latter, variable REX is used, which is defined as the EI for any firm in any period deflated by profits before EIs. Comparisons of the EI and REX values with firm size are shown in Table 3 for each of the five years of available earnings data.

In general terms, the results in Table 3 indicate significantly larger dollar values for EIs in larger Hong Kong firms with, for instance, mean EI values in the larger group of firms exceeding those in the smaller group for all five years of data at the

Table 3. Comparison of extraordinary items (EIs) by firm size across each of the five years of available accounts

Variable	(HK$000s) Mean	Standard (HK$000s) deviation	*n*	*t*-values
Year 1: (t-1)	† *Median net asset size: $HK462 816 (in $HK000s)*			
EI (small)	−2 724.75	31 605.93	114	−3.59**
EI (large)	63 308.73	193 801.36	114	
REX1 (small)	0.23	1.55	114	−1.59*
REX1 (large)	0.62	3.02	114	
Year 2: (t-2)	† *Median net asset size: $HK383 835 (in $HK000s)*			
EI (small)	7 695.74	73 260.81	110	−1.38*
EI (large)	31 982.63	170 144.95	111	
REX2 (small)	2.36	13.81	110	0.27
REX (large)	−1.69	22.61	111	
Year 3: (t-3)	† *Median net asset size: $HK390 634 (in $HK000s)*			
EI (small	1 848.45	15 084.53	98	−1.76**
EI (large)	67 557.92	339 329.02	98	
REX3 (small)	0.81	5.93	98	−0.11
REX3 (large)	0.89	4.02	98	
Year 4: (t-4)	† *Median net asset size: $HK282 570 (in $HK000s)*			
EI (Small)	2 582.24	24 339.24	92	−2.47**
EI (large)	52 145.62	190 987.29	92	
REX4 (small)	0.70	3.89	92	1.05
REX4 (large)	0.23	1.80	92	
Year 5: (t-5)	† *Median net asset size: $HK212 952 (in HK$000s)*			
EI (small)	4 980.67	17 561.91	85	−4.81**
EI (large)	77 769.49	258 992.04	85	
REX 5 (small)	2.17	10.63	83††	1.62*
REX 5 (large)	0.29	1.21	85	

REX I to REX5 refers to the EI for any firm deflated by profits before EIs in the first, second, third and fourth, and fifth most recent sets of accounts available, respectively.
† From 229 cases, valid cases for net assets in years t-1, t-2, t-3, t-4, t-5 were 229, 222, 197, 185 and 171 respectively. So missing values for net assets from t-1 to t-5 were 0, 7, 32, 44 and 58 cases respectively.
†† 2 missing values for REX5 due to 0 values (to neasrest HK$000s) for EI_{T-5} and PBE_{T-5}
* One-tailed *t* tests significant at the 10% level (critical *t* = 1.28).
**One-tailed *t* tests significant at the 5% level (critical *t* = 1.65).

10 percent significance level (for one-tailed tests). However, since hypothesis H_{3N} stresses significant differences in the relative size of the EIs across large and small firms, more meaningful comparisons may be made by focusing on differences in the mean values of the REX variables. Reference to the *t*-test, in this connection, indicate that the relative size of EIs does not, in general terms, differ significantly between large and small sized firms. Specifically, for all five years of available earnings data, the *t*-tests for differences in means of REX are insignificant at the 5 percent level (for one tailed tests).

While the findings reported in Table 3 question the validity of the first part of H_{3N}, relating to relative size differences in the EIs, and to H_{4N}, relating to materiality differences in the EIs across small and large firms, they do not allow an indication of the relative incidence of EIs to be gleaned between large and small firms. To shed light on this issue, reference should be made to Table 4(a), where Pearson correlations are recorded between a variable COUNT, defined to capture the incidence rate in

EIs, and the net asset size of Hong Kong firms. In this context, COUNT is defined for all firms with at least one EI recorded during the five years of accounts scrutinized in this study and records, for each firm, the number of EIs reported over this period. As a result, COUNT takes on values between one and five.

The results of the correlations between COUNT and firm size, shown in Table 4(a) indicate a relatively weak positive relation between the incidence of EIs and firm size. Furthermore, differences between mean values for the average net assets (AVNA) of the firms were also computed and tested parametrically and non-parametrically between different values of the COUNT variable. These results, shown in Table 4(b), are broadly consistent with those shown in Table 4(a) and again suggest that firm size has little bearing upon the incidence rate in EIs in the Territory. Given this, the second part of hypothesis H_{3N} appears to be of questionable merit. In general terms, therefore, one can argue that the evidence in Tables 3 and 4 suggests a relatively weak relationship between firm size and the relative size, materiality and incidence of EIs in Hong Kong which, interestingly, runs counter to evidence presented in other market settings.

Finally, the last hypothesis in this paper is scrutinized by examining the possible association between business classification and the size of EIs reported in Hong

Table 4(a). Pearson correlations between the incidence rate in EIs (COUNT) and fim size

	COUNT	NA1	NA2	NA3	NA4	NA5
COUNT	1.000	.0958	.1209	.1113	.1033	.1289

**One-tailed significance at the 1% level.
N = 171 cases (of the 192 firms having a complete five-year history of earnings, net assets data, for one or more of the five years, were missing in 21 of the companies).

Frequency distribution of variable COUNT

Value	1	2	3	4	5	1 to 5
Cases	52	62	27	40	11	192 (all firms with 5 years of earnings)
Cases	38	59	26	38	10	171 (all firms with 5 years of net assets data)

Table 4(b). Parametric *t* and non parametric tests of differences in firm size between values 1 to 5 of the COUNT variable

Firm size measured by average net assets (AVNA) = (NA1 + NA2 + NA3 + NA4 + NA5)/5

	N	AVNA Mean (HK$000s)	St. dev. (HK$000s)	Diff. between means *t* test		Mann-Whitney (Wilcoxon) Sum of Ranks *Z*	
COUNT = 1	38	2195062.8	5534637.5				
				1.32		–0.34	
COUNT = 2	59	975247.7	1576503.7				
				–1.10		–0.04	
COUNT = 3	26	2532183.0	7128318.9		–1.06†		–0.05†
				0.16		–0.31	
COUNT = 4	38	2278630.7	5147074.5				
				–1.03		–0.18	
COUNT = 5	10	4977899.8	7818921.5				

**One-tailed *t* and Z tests significantly different from zero at the 5% level.
†Indicates *t* test carried out between means of AVNA for COUNT = 1 and = 5.

Kong. For this purpose, attention is focused, for reasons outlined in section 3, on the accounts of companies classified as property (PROP) and banking and finance (B&F) based firms. In this regard, the absolute size of EIs reported in these companies is compared with those in companies in other business sectors to determine whether any significant differences are apparent in the means of these items across the five years of interest. Mann–Whitney (Wilcoxon) Sum of Ranks Z tests are utilized for this purpose given the relatively small number of available EI observations in many of the business sectors which make it difficult to specify any distributional assumptions across the EIs for firms in these sectors.

Information leading to the Mann–Whitney (Wilcoxon) tests between the EIs recorded in various business sectors and those in the property and banking and finance sectors, respectively, are shown in Tables 5(a) and (b). Again, support for the hypothesis cited fails to materialize given insignificant results across virtually all of the business sectors examined within these tables. Given this finding, it appears that industrial classification is independent of the actual size of EIs reported in the Territory. Again, this observation runs counter to evidence presented in other settings

Table 5(a). Comparisons of mean values of extraordinary items between property (PROP) based companies and companies in other sectors using Mann-Whitney Z-tests

	Accounting periods of interest				
	T-1	T-2	T-3	T-4	T-5
Comparisons:	Z (n_1,n_2)	Z (n_1,n_2)	Z (n_1,n_2)	Z (n_1,n_2)	Z (n_1,n_2)
PROP: CON	–0.633 (79,11)	–0.511 (79,11)	–1.656 (79,11)	–0.378 (76,11)	–0.819 (73,10)
PROP: IND	–1.036 (79,67)	–0.268 (79,67)	–0.774 (79,64)	–2.106** (76,61)	–0.607 (73,51)
PROP: MED	–0.375 (79, 7)	–1.663 (79, 7)	–1.199 (79, 7)	–0.523 (76, 6)	–0.483 (73, 5)
PROP: UTIL	–0.828 (79, 3)	–0.611 (79, 3)	–0.852 (79, 3)	–0.939 (76, 3)	–0.749 (73, 3)
PROP: B&F	–0.744 (79,19)	–0.926 (79,19)	–0.436 (79,19)	–1.092 (76,17)	–1.180 (73,15)
PROP:HOT	–0.981 (79,13)	–0.992 (79,13)	–1.573 (79,13)	–0.375 (76,13)	–0.624 (73,12)
PROP: M&O	–1.376 (79, 4)	–1.302 (79, 4)	–0.818 (79, 4)	–0.977 (76, 4)	–0.332 (73, 4)
PROP: R&T	–0.189 (79,20)	–0.014 (79,20)	–1.325 (79,20)	–0.143 (76,20)	–0.244 (73,16)
PROP: WST	–0.921 (79, 6)	–0.176 (79, 6)	–1.842 (79, 6)	–0.516 (76, 5)	–0.456 (73, 3)

Key:

Z statistics: shown in the main body in the table.

(n1, n2): indicates the number of cases involved in the comparison of companies, i.e. n1 indicates the number of property companies available with EIs in the particular year of interest and n_2 indicates the number of companies in another sector with EIs in year of interest.

** Significant Mann-Whitney (Wilcoxon Sum of Ranks) z test values at the 5% level for two-tailed tests.

Classification scheme for determination of business activities is the Hong Kong Standard Newspaper's business sector classification where PROP = property and construction; CON = conglomerates; IND = industrials; MED = media companies UTIL = utilities; B & F = banking and finance investments; HOT = hotel/ travel and food beverages companies; M & O = Mining and oil; R & T = retailers and trading companies, and WST = wharves, shipyard and transport.

Table 5(b). Comparisons of mean values of extraordinary items between banking and finance (B & F) based companies and companies in other sectors using Mann-Whitney *Z*-tests

Comparisons:	Accounting periods of interest T-1 Z (n_1,n_2)	T-2 Z (n_1, n_2)	T-3 Z (n_1, n_2)	T-4 Z (n_1, n_2)	T-5 Z (n_1,n_2)
B&F: CON	–0.153 (19,11)	–0.890 (19,11)	–1.249 (19,11)	–1.053 (17,11)	–0.000 (15,10)
B&F: IND	–0.016 (19,67)	–0.681 (19,67)	–1.079 (19,64)	–0.088 (17,61)	–2.186** (15,51)
B&F: MED	–0.262 (19,7)	–0.670 (19,7)	–0.740 (19,7)	–1.144 (17,6)	–0.132 (15,5)
B&F PROP	–0.744 (19,79)	–0.926 (19,79)	–0.436 (19,79)	–1.092 (17,76)	–1.180 (15,73)
B&F: UTIL	–0.435 (19,3)	–0.502 (19,3)	–0.679 (19,3)	–0.167 (17,3)	–1.648 (15,3)
B&F: HOT	–1.450 (19,13)	–1.311 (19,13)	–1.057 (19,13)	–1.070 (17,13)	–0.657 (15,12)
B&F: M&O	–1.391 (19,4)	–0.744 (19,4)	–0.689 (19,4)	–0.276 (17,4)	–0.609 (15,4)
B&F: R&T	–0.575 (19,20)	–0.636 (19,20)	–0.469 (19,20)	–0.826 (17,20)	–1.222 (15,16)
B&F:WST	–0.128 (19,6)	–0.573 (19,6)	–1.578 (19,6)	–1.003 (17,5)	–0.181 (15,3)

Key: See Table 5(a).

where some associations have been noted. Finally, for reference purposes, detailed descriptive statistics for the EIs reported within particular business sectors are shown in Appendix 4(a) and (b) in this paper.

Conclusions and Summary Discussions

The purpose of this study has been to examine descriptive and statistical evidence related to financial reporting in a relatively unregulated environment.

Elsewhere, the Hong Kong accounting system has been described as "speculative" (see Chan, 1988). Hong Kong businesses are not subject to the financial and social constraints found elsewhere. A relatively low corporate tax rate and a relatively open and unfettered business environment mean than firms are free to maximize earnings. Constituent groups (i.e., consumers, workers, and policy makers) do not exercise the same pressure as their counterparts elsewhere. Moreover, there are few demands for measures like less regressive taxes, surtaxes or special control of larger specific corporate groupings.

For these reasons, "big bath" (see Elliot and Shaw, 1988) and smoothing evidence in earnings is not apparent. Larger firms report larger extraordinary earnings than smaller firms but there is weak evidence of a relative size difference in the reporting of larger and smaller firms. Given this, reporting is not significantly influenced by firm size. In general terms, Hong Kong companies are not embarrassed to report

larger earnings and experience little or no pressure to reclassify economic events simply on the basis of size. The end result is a neutral reporting philosophy since there are no special incentives to conceal or mislead: extraordinary items abound in Hong Kong but the incidence of such reporting does not appear to be associated with structural factors. This situation contrasts with conditions elsewhere. Bowen et al. (1981), for example, note a significant association between the capitalization of interest expense and firm size in the U.S. petroleum industry with large firms displaying greater political sensitivity to excessive profits than small firms.

Hong Kong companies appear to maximize earnings regardless of size since they escape from relatively high taxes as well as unwarranted social sigma in doing so. In the 1980s a property boom provided an incentive for firms to maximize their profits and, indeed, much of the reporting in this study concerns profitable asset dispositions. Of course, property companies have been actively engaged in property transfers but non-property companies also have significant property holdings either directly via ownership or through subsidiaries. The property boom accounts for much of the activity and helps to explain the absence of significant differences in the relative size and incidence in EIs across firms in different business/industry sectors.

The drive for maximum profits is perhaps heightened by the 1997 transfer of Hong Kong's sovereignty from Britain to the People's Republic of China. Nervousness of how the future "one country two systems" arrangement will materialize may foster a short-term desire for maximum profits. This short-term emphasis seems to preclude the "big bath" phenomenon cited elsewhere that would sacrifice current income for future income. Motivation for such action can be framed in terms of the structure of the compensation package where a lower base of compensation allows higher future projection of income and compensation to be made (see Healy, 1985, p. 107) and thus provides a motivation for managers to suppress existing levels of earnings.

In Hong Kong, however, maximization of current income works to everyone's advantage. The agency relationship between managers and investors is mutually beneficial and reflects high concentrations in stock holdings (see Mok, 1992). All employment income is taxed at a flat 15 percent rate so managers have no incentive to delay the receipt of income for tax reasons. Investors also prefer current investment because dividend and capital gains are subject to no tax whatsoever.

In sum, the HKSA provides a definition of extraordinary items which allows for a considerable degree of latitude in the selection of events and materiality thresholds, and Hong Kong managers appear to make full use of this through the operational definitions they apply to their accounts. It is conceivable that the discretionary use of the items might allow for the "big bath" phenomenon (see Elliot and Shaw, 1988) but, in Hong Kong, managers appear to use their discretionary powers to hasten the flow of income as much as possible and to maximize it by interpreting "income" as extraordinary where justifiably possible.

Finally, the political transfer of Hong Kong to China is recognized in accounting by the shift from a British based to an internationally based system of reporting. One consequence of the change is the elimination of EIs but, as this study has shown, some indifference to the source of reported income exists. However, it is widely held in the business community (see, for example, Hewett's, 1993a, 1993b,

account of the proposed changes to corporate reporting in Hong Kong) that a more detailed delineation of income sources will give rise to greater uniformity and consistency in reporting practices and, ultimately, benefit the various users of corporate accounts in the Territory.

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Notes

1. See Yuen (1990), p. 27 ff.) for reference to and further discussion for this working definition.
2. These firms include Cable and Wireless (Primary Listing (PL): UK), FAI Insurances (PL: Australia), Haw Par Brothers International (PL: Singapore), London and Pacific Insurance Co. Berhard (PL: Malaysia), The News Corporation (PL: New Zealand), the Peninsular and Oriental Navigations Co. (PL: UK), Scottish Asian Investment Co. (PL: US), Tiphook (PL: UK) and United Overseas Bank (PL: Singapore).
3. For further information on the use of the Sign test see Siegel (1956, pp. 68–75).
4. In this connection, reference should be made to Paragraph 12 (p. 3) of the Technical Bulletin which gives detailed examples of adjustments using extraordinary items.
5. Indeed, discussions with the HKSA indicate that such reclassifications, for tax purposes, have on occasion, been made. Noting, of course, that as background there is no capital gains tax in the Territory and that profits from the sale of assets can only be taxed in the form of income.
6. A collary of this is that certain issues deemed important in the literature are not considered further. For example, Elliot and Shaw's (1988) "big bath" explanation for EIs is regarded to be of secondary importance in explaining EIs in Hong Kong given the background evidence presented in section 2 of this paper indicating the dominating influence of large positive EIs in Hong Kong corporate accounts. However, it should be noted that Walsh et al (1991, p. 176) recognise that a 'big bath' may be associated with noth 'write-downs' and 'write-ups' to profits.
7. In terms of empirical validation, Craig and Walsh (1989, p. 241), in their study of Australian public companies, found that "the higher the market capitization of a company, the lower the variability of yearly movements in RNP (reported net profit) and, consequently, the greater the propensity to smooth fluctuations in company profit performance." (p. 241)
8. Annualized returns between 1986 and 1992 have averaged over 20 percent, with a standard deviation of about 30 percent (see Wyatt Company Annual Report, 1992, p. 14).
9. This view was also made apparent from discussions with a small sample of local practitioners in public accounting firms in the Territory with expertise in the interpretation and validation of extraordinary items.
10. The use of the CV measure to capture volatility bears some resemblance to Sharpe's (1966) Performance Index for investments. In assessing the variability of security returns, Sharpe formulated a reward to variability measure for an investment in terms of its expected excess return (= expected investment return less risk-free rate) per unit of total investment risk (= standard deviation of investment return). Comparisons of the CV measure to other performance indices, including Treynor's (1966) well-known index, can also be made.

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Appendix 1: Descriptive Statistics of the Positively and Negatively Signed Extraordinary Items (EIs) Reported for Hong Kong Listed Firms

	EI_{T-1}	EI_{T-2}	EI_{T-3}	EI_{T-4}	EI_{T-5}
No. of firm accounts available where at least one EI was recorded between T-1 and T-5, n =	229	229	226	216	192
Mean (HK$000s)	30151.2	18878.9	33421.6	23699.8	36797.1
St. dev. (HK$000s)	142142.5	129518.8	228229.92	127751.6	176007.4
Positive cases in the EIs, n=	83	72	52	76	76
Mean (HK$000s)	102076.7	85276.9	154098.2	75047.3	96377.9
St. dev. (HK$000s)	213244.3	196364.9	458360.6	204831.9	269730.0
Negative cases in the EIs, n=	51	42	41	27	21
Mean (HK$000s)	(30740.1)	(43254.1)	(11215.2)	(21645.7)	(12365.7)
St.dev (HK$000s)	58819.1	117542.9	21013.5	40585.1	23626.4
Zero cases in the EIs, n =	95	115	133	113	95
*Comparisons of **absolute** differences in size of the EIs across the positive and negative EI subsamples for each year (T-1 to T-5)*					
Mann-Whitney *Z* statistics	−1.99**	−1.13	−4.56**	−2.38**	−3.57**

continued...

Appendix 1 continued.

	EI_{T-1}	EI_{T-2}	EI_{T-3}	EI_{T-4}	EI_{T-5}
Two-tailed Sign level for *Z* test	0.0465	0.2594	0.0000	0.0171	0.0004

**Indicates signficant *Z* tests at the 5% level for one and two tailed tests.

Appendix 2: Descriptive Statistics for the EIUSES Variable for each of the Five Years of Accounts Examined in the EIs

Variable: EIUSES 1			Variable: EIUSES 2			Variable: EIUSES 3		
Value	Frequency	%	Value	Frequency	%	Value	Frequency	%
0	94	41.0	0	114	49.8	0	133	58.1
1	79	34.5	1	69	30.1	1	53	23.1
2	14	6.1	2	8	3.5	2	6	2.6
3	7	3.1	3	11	4.8	3	7	3.1
4	5	2.2	4	5	2.2	4	9	3.9
5	17	7.4	5	13	5.7	5	16	7.0
6	13	5.7	6	9	3.9	6	2	0.9
9	0	0.0	9	0	0.0	9	3	1.3
Total	229	100.0		229	100.0		229	100.0

Variable: EIUSES4			Variable: EIUSES5		
Value	Frequency	%	Value	Frequency	%
0	113	49.3	0	95	41.5
1	53	23.1	1	57	24.9
2	6	2.6	2	1	0.4
3	6	2.6	3	4	1.7
4	4	1.7	4	2	0.9
5	22	9.6	5	27	11.8
6	12	5.2	6	6	2.6
9	13	5.7	9	37	16.2
Total	229	100.0		229	100.0

Key:

EIUSES1: refers to the specified use of an extraordinary item (EI) in the reported accounts of a Hong Kong firm in the most recent set of accounts scrutinized.

EIUSES2–EIUSES5: refers to the specified use of an EI in the reported accounts of a Hong Kong firm for the second, third, fourth, and fifth most recent set of accounts in the company.

Coding EIUSES1–5: 0 indicates no extraordinary item reported (EI = 0); 1 indicates assets sales/discontinuances; 2 indicates diminuition in value of assets; 3 indicates EI in subsidiaries; 4 indicates EI due to reorganization; 5 indicates EI due to other or multiple reasons; 6 indicates EI due to share transactions (i.e., interest on new subscriptions); and 9 indicates, missing information in the corporate reports. (see Fig. 2 for earlier description of the coding for the EIUSES variables.)

Appendix 3(a) Hong Kong Capital Property Indices: 1986–1993

	Office	Industrial	Retail	Residential	Large residential
1987 January	143.0	129.3	127.3	130.1	141.6
1988 January	186.7	171.8	160.4	154.8	157.5
1989 January	320.9	241.1	277.9	200.7	217.3
1990 January	386.6	292.6	253.5	196.8	215.8
1991 January	314.7	301.8	276.0	237.5	214.0
1992 January	367.5	417.3	324.2	365.5	330.2
1993 January	504.5	421.8	416.7	468.8	436.6

Source: Jones Lang Wooton, Research Department, Hong Kong.

Appendix 3(b): Year-on-Year Capital Property Sectors: 1987–1993

	Office	Industrial	Retail	Residential	Large residential
1987–1988	30.55%	32.87%	26.00%	18.96%	11.22%
1988–1989	71.88%	40.34%	73.25%	29.65%	37.97%
1989–1990	20.47%	21.36%	(8.78%)	(1.94%)	(0.007%)
1990–1991	(18.60%)	0.03%	8.87%	20.68%	(0.008%
1991–1992	16.78%	38.27%	17.46%	53.89%	54.30%
1992–1993	37.29%	0.01%	28.53%	28.27%	32.22%

Source: Information compiled from data shown in Appendix 3(a) above.

Appendix 4(a) Extraordinary Items by Industry Sector across the Five Years of Earnings Data

		PROP	IND	B&F	M&O	R&T
EX1	Mean (HK$000s)	26754.13	22883.93	30331.79	–3655.75	10288.30
	St. dev. (HK$000s)	122424.19	119684.56	129600.54	4625.00	58508.66
	n	79	67	19	4	20
EX2	Mean (HK$000s)	31540.48	4889.00	1395.58	–29365.50	38672.90
	St. dev. (HK$000s)	149406.79	18106.78	84673.77	58731.00	160874.42
	n	79	67	19	4	20
EX3	Mean (HK$000s)	34422.43	2176.02	–2841.26	–17794.25	6210.30
	St. dev.(HK000s)	161021.80	21490.04	10752.37	50266.88	15620.90
	n	79	64	19	4	20
EX4	MeanHK$000s)	20067.09	4240.59	–613.65	–1304.75	13135.35
	St. dev. (HK$000s	79979.26	31207.32	55307.59	31588.76	42678.77
	n	76	61	17	4	20
EX5	Mean (HK$000s)	49439.73	15903.94	23002.53	5950.25	4361.19
	St. dev. (HK$000s)	255457.88	62859.41	66634.18	10801.36	8091.24
	n	73	51	15	4	16

		CON	HOT	UTIL	WST	MED
EX1	Mean (HK$000s)	174034.73	–51.62	191682.33	–15010.33	13097.57
	St. dev. (HK$000s)	378397.66	1723.58	332003.54	154989.57	23232.96
	n	11	13	3	6	7
EX2	Mean (HK$000s)	99478.64	19119.08	–241601.60	42969.00	–7761.43
	St. dev (HK$000s)	257651.12	43105.46	422887.02	103217.43	16040.31
	n	11	13	3	6	7
EX3	Mean (HK$000s)	344941.09	12171.38	3284.33	101627.33	17629.57
	St.dev (HK$000s)	903569.48	33951.72	5688.63	224404.31	30475.88
	n	11	13	3	6	7
EX4	Mean (HK$000s)	156200.18	91417.54	0	4509.80	34331.17
	St. dev. (HK$000s)	390926.62	294833.56	0	6558.52	52774.91
	n	11	13	3	5	6
EX5	Mean (HK$000s)	159074.00	20983.50	0	105653.67	9343.80
	St. Dev. (HK$000s)	263127.12	48004.82	0	182997.52	49454.67
	n	10	12	3	3	5

Key:
Classification scheme for determination of business activities is the Hong Kong Standard Newspaper's business sector classification, where PROP=property and construction; IND = industrials; B & F = banking and finance investments;
M&O = mining and oil; R&T = retailers and trading companies; CON = conglomerates; HOT = botel/travel and food/beverage companies; UTIL = utilities; WST = wharves, shipyard and transport; and M = media companies.

Appendix 4(b): Extraordinary Items as a Fraction of Profits Before Extraordinary Items by Industry Sector across the Five Years of Earnings Data

	PROP	IND	B & F	M & O	R& T
REX1 Mean (HK$000s)	.13	.68	.19	0.27	1.18
St. dev. (HK$000s)	1.50	3.72	.45	0.40	2.61
n	79	67	19	4	20
REX2 Mean (HK$000s)	1.52	.08	2.57	2.97	6.66
St. dev. (HK$000s)	6.97	.48	8.36	5.94	29.47
n	79	67	19	4	20
REX3 Mean (HK$000s)	1.59	.29	–.21	1.86	1.16
St. dev. (HK$000s)	7.29	1.82	1.59	2.90	4.51
n	79	64	19	4	20
REX4 Mean (HK$000s)	.28	.10	2.06	–0.47	.92
St. Dev. (HK$000s)	1.71	.49	7.94	1.27	3.60
n	76	61	17	4	20
REX5 Mean (HK$000s)	2.23	–.09	2.34	–3.93	1.00
St. Dev. (HK$000s)	10.67	.87	7.32	5.05	3.83
n	72	51	15	4	16

	CON	HOT	UTIL	WST	MED
REX1 Mean (HK$000s)	.06	.00	2.42	0.73	0.14
St. Dev. (HK$000s)	.16	.12	4.19	1.29	0.18
n	11	13	3	6	7
REX2 Mean (HK$000s)	.09	.17	–.02	–39.31	–0.40
St. Dev. (HK$000s)	.18	.35	.11	95.86	1.02
n	11	13	3	6	7
REX3 Mean (HK$000s)	.15	.15	.01	.47	–0.15
St. Dev. (HK000s)	.38	.59	.02	1.03	3.63
n	11	13	3	6	7
REX4 Mean (HK$000s)	.08	.74	0.00	–.06	–0.25
St. dev.	.16	3.13	0.00	.15	1.69
n	11	13	3	5	6
REX5 Mean (HK$000s)	1.18	.13	0.00	.73	0.29
St. Dev. (HK%000s)	3.19	.21	0.00	1.03	0.26
n	10	12	3	2	5

Key:
Classification scheme for determination of business activities is the Hong Kong Standard Newspaper's business sector classification, where PROP = property and construction' IND = Industrials; B & F = banking and finance investments; M & O = mining and oil; R & T = retailers and trading companies; CON = conglomerates; HOT = hotel/travel and food beverage companies; UTIL = utilities; WST = wharves, shipyard and transport; and media companies.

Note:
For Rex5, total observations available were 190 (not 192) due to 2 values for EI_{T-5} and PBE_{T-5} when rounded to nearest HK$000s, being equal to 0.

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The International Journal of Accounting

Book Reviews

Global Management Accounting: A Guide for Executives of International Corporations *by James A. Heeley and Roy L. Nersesian. Quorum, London, 1993, 301 pp. $59.95.*

According to the authors, this book is "intended to be an aid to managers making the transition from managing a domestic operation in person to assuming the responsibility of overseeing diverse operations in different countries in absentia". The primary focus of the book is on the complexities that managers encounter in the global financial environment. Special attention is given to the various accounting guidelines and procedures utilized in the European Community, North America, and the Pacific Rim countries. Within the aforementioned, the United Kingdom, the United States, Germany, and Japan are given extensive coverage.

The first chapter examines many of the trends toward globalization. Beginning with Isaac Singer and Singer sewing machine, the authors illuminate many of the trends and events which have helped shape the modern business world. The historic roots of globalization cited include the Roman Empire and its early attempt to create a lasting integrated political and economic system of government and the US Constitution's creation after the Articles of Confederation failed to solidify a nation from independent states. Hard and soft global currencies are also discussed in this chapter. In particular, the use of the US dollar as the "global" currency after World War II and the development of the European Currency Unit (ECU) as a substitute for numerous European currencies are reviewed.

Chapter 2 provides the background to formal accounting. Included in this review are early examples of business transactions in Egypt and Greece, the Franciscan friar Luca Pacioli's seminal work, the Venetian accounting method, codification of accounting principles, and the idea of two sets of books. Management attitudes towards accounting in the divergent countries of Switzerland, Belgium, Italy, Brazil, Finland, Indonesia, South Africa, the United States, the United Kingdom, and Zimbabwe are also reviewed and discussed. The regulation of accounting by governmental and professional groups is examined with special attention given to the self-regulating organizations in Australia, Hong Kong, Ireland, Mexico, New Zealand, Zambia, and Zimbabwe. It is interesting to note that while Thailand, the United States, and the United Kingdom have strong professional self-regulating groups they also experience a great degree of governmental intervention. Finally, as would be expected, countries like Switzerland which require little public disclosure

of financial activities have minimal government guidelines. The perceived need for audits, and the role of public disclosure round out the chapter.

A substansive survey of world accounting practices is presented in Chapter 3. The United Kingdom, the United States, Australia, Canada, France, Germany, Japan, the Netherlands, Sweden, Switzerland, Egypt, Brazil, and Columbia are discussed in detail. Korea, the Philippines, Taiwan, and the countries of the former Soviet Union are also examined; however, it is in less depth and detail than the aforementioned countries. Finally, the requirements for obtaining professional certification and status in numerous countries around the world are examined.

The significance of the International Accounting Standard Committee (IASC) and the International Federation of Accountants (IFAC) to the standardization and harmonization of accounting practice is outlined in Chapter 4. Numerous IASC and IFAC standards are included along with directives developed by the European Economic Community (EEC). Also included in the chapter are voluminous examples of European annual reports. These reports reveal the major effort of the accounting profession to present harmonious global financial statements.

The principles of accounting consolidations are presented in Chapter 5. The pooling-of-interest and purchase methods of consolidation are reviewed along with branch office accounting. To enhance clarity, abundant journal entries and worksheets are provided throughout the chapter. Due to the complexity of some of the material in this and subsequent chapters, a solid background in basic accounting is recommended.

Foreign currency trading is the focus of Chapter 6. After a brief review of the gold standard, attention is directed to exchange rates, cross trades, forward rate, and the role of arbitragers in the world of international financial management. The use of Financial Accounting Standards Board (FASB) 8 "Accounting for the Translation of Foreign Currency Transactions and Foreign Currency Financial Statements," and FASB 52 "Foreign Currency Translation," is also reviewed. Finally, hedging, speculative forward contracts, and currency translation practices outside the Untied States complete this chapter.

Chapters 7 and 8 deal respectively with transfer pricing and accounting for inflation. Transfer pricing is covered in relative detail in Chapter 7. The coverage includes transfer prices and taxes, international funding, circumvention of exchange controls, minimizing duties and tariffs, setting transfer prices, and reinvoicing centers. Chapter 8 provides especially interesting reading. A comparison between low, medium, and high inflation nations is presented. Accounting for lower inflation countries such as the United States, Japan, the Netherlands, the United Kingdom, and France are analyzed along with hyperinflationary nations like Brazil. Numerous charts and financial statements examples are presented throughout the chapter to facilitate a better understanding of the material.

In the final chapter (Chapter 9) the authors discuss risk management in a volatile world – more specifically, how volatility in the modern era impacts profitability and investment decisions. As in prior chapters, numerous charts, journal entries, and financial statements are provided to enhance the reader's understanding of this often misunderstood area of global accounting. Currency risk management, transaction and translation exposure, future and forward contracts, interest and currency swaps, and backwardation are reviewed in substantial detail in this chapter. Finally, some

risk management strategies are suggested other than doing nothing and hedging everything to help global managers effectively utilize scarce financial resources.

The appendix and bibliography also prove enlightening. The appendix provides an exhaustive up-to-date listing of international accounting organizations from around the world, including Iceland in the north to South Africa in the south. A substantive bibliography adds the finishing touch to the book.

In summary, as apparent seasoned professionals, the authors have addressed numerous global financial management issues in this book. The book is clear, concise, and to the point. The conceptual overview provided by the authors of the global management environment is especially strong. Mangers who are not even "financial" managers will find this book both enjoyable and meaty. This book should indeed be used as a guide for executives in international corporations.

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Accounting for Brands by Kato Communications. *Financial Times Business Information, London, 1993, 147 pp.*

For many business entities the desire for an international presence is often initiated with the purchase of popular brand names. Though the accounting treatment of brands under Generally Accepted Accounting Principles (GAAP) has historically been identified with goodwill, a fresh look at alternatives is prompted by the variety of approaches used in some countries. At issue is not only the practice of capitalization of acquired brands, with or without amortization, but the practice of current cost valuation of home-grown brands.

Though brand accounting is not of major concern for a majority of companies, it is a consideration for large, multinational companies with an international business strategy and international financing. Designed as a technical briefing, this report provides an analysis of issues and views directed towards the interests of finance directors, investment analysts, and accountants. KATO Communications Ltd. is a UK-based company specializing in business publications.

Section One is devoted to a general discussion of purchased intangibles and research and development costs in the context of international business, with special emphasis on problems arising from consolidations. A detail of IAS 9 is used to contrast the US practice of expensing research and development costs to that of international standards which allow capitalization.

Contrasted with the practice of fixing goodwill at point of acquisition is the presentation of a European model where goodwill is recomputed at year-end and valued according to changes in the equity of the subsidiary. The author is adamant in lamenting the UK change in the early 1980s which allowed a diversity of approaches in accounting for goodwill. Graphic data emphasizes the rapid growth in goodwill as a percentage of the bidder's net worth. The takeover of Rowntree Mackintosh by Nestlé and Rank Hovis McDougall by an Australian bidder prompted the inclusion of multiple graphics contrasting pre- and post-financial conditions.

The three chapters in Section One conclude with a discussion of the economic significance of a brand; attention is called to international markets, for example, the Olympics and to factors associated with the valuation of same-product marketing under different names. Results are shown for a study which compared value of established brand names in two diverse areas, a product line and a service venture – desktop computers and trans-Atlantic flights.

In Section Two is a more in-depth look at the technical questions of policy and methodology for brand valuation. Details of hybrid methods of valuation as well as the historical cost and market/economic methods are shadowed by the ethical dilemma of exactly who should value brands. Comparative balance sheet data highlight the treatment of Rank Hovis MacDougall's disclosure of self-generated brands contrasted with that of Grand Metropolitan's acquired brand disclosure.

Summarized is a presentation of valuation methodologies used by independent appraisers in which valuation is treated as a function of brand premium. The conglomerate model is a hypothetical assessment of brand strength and a brand valuation multiplier. Reference information is provided so that interested parties may contact (via phone or fax) several independent appraisers.

Chapter 6 begins Section Three with a survey of international practice in the countries of Australia, Canada, Ireland, New Zealand, South Africa, and the United States. In addition to an identification and discussion of accounting standards pertinent to each country, unique examples of specific corporate data are used to paint a picture of corporate practice in each country referenced.

Chapter 7 is a compilation of accounting regulations and corporate examples in Mainland Europe – Austria, Belgium, Denmark, France, Germany, Greece, Italy, Spain, Sweden and Switzerland.

Current regulations, corporate practice and regulatory changes in the rest of the world – Brazil, Hong Kong, Japan and Singapore – are summarized in Chapter 8.

Chapter 9 is a compendium of international opinion. These opinions include that of the former chairman of the International Standards Committee, a chairman of the US Finance Accounting Standards Boards, a former president of the European Federation of Financial Analysts, the head of DG XV Financial Institutions and Company Law of the European Commission, representatives of the Belgian Commission des Comptables, and the Coinsel Superieur of the French Ordre des Experts Comptables. Chapter 10 is used to draw generalizations of the diversity of information included in the book. Finally, there is a glossary identifying terms and organizations referenced.

Because it is a collection of essays, there is a great deal of repetitive information and overlapping discussion, especially in Section One. The book is an excellent introduction to a myriad of ideas and thoughts on the issue. It is a substantive contributions to the field of international accounting.

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International Accounting and Multinational Enterprises, 3rd Edition *by Lee H. Radebaugh and Sidney J. Gray. John Wiley & Sons, Inc., New York, 1993, 582 pp.*

This textbook presents international accounting in the context of multinational strategies. It focuses on how accounting is being applied to fulfil the strategies of multinational enterprises. In addition, as the previous two editions, the current edition continues to concentrate on the contribution of culture to accounting standards and practices worldwide. It has a comprehensive coverage of key financial accounting issues and current world events. While Radebaugh and Gray attempt to cover most countries, the United States and the United Kingdom are more frequently drawn upon as references.

Although this book is written to better prepare accounting students to work in the real world, its function of strategic perspectives makes it also applicable for practitioners involved in international arena. Given the book is for academic purposes, the majority of the 21 chapters are infused with references to empirical works found in academic journals. The contents in each chapter are well structured with the effective use of thought-provoking questions and clearly defined key terms. With the exception of performance evaluation, the information presented is current and reflects the current state of the art in the financial world.

This 21-chapter text is divided into seven main themes dealing with contemporary and emerging issues. Each chapter begins with defined objectives and ends with a well-written summary that highlights the key concepts covered. One of the outstanding features is the good balance between text discussion and illustrations. In addition to study questions and problems at the end of each chapter, cases are provided at the end of 17 chapters.

Chapter 1 presents an overview of how accounting evolves to meet environmental needs. It also gives a brief historical account of the trends in the international development of accounting and the evolution of international business from 3600 BC to modern times. The authors also introduce each chapter of the remaining 20 chapters.

Chapters 2 and 3 are good introductory chapters. The introduction of Chapter 2 is stimulating and thought-provoking. The authors make good use of a real-world example which leads to a discussion of the nature of international business, global trade, investment patterns, the major players in international markets, and global corporate strategy. Chapter 3 identifies and discusses the 14 environmental factors that influence business and management practices. The authors attribute the growing importance of Multinational Enterprises (MNEs') accountability to the environmental impact.

Chapter 4 presents several approaches to classifying accounting systems. In addition to the explanation of the importance of international classifications in the context of multinational strategy, the authors focus on some empirical studies done by Mueller, Hofstede, and others to explain the differences in accounting systems and traditions.

Based on the cultural classifications identified in Chapter 4, Chapter 5 addresses the comparative review of accounting systems in the United States and eight other

industrialized countries. These countries are grouped into Anglo-Saxon, Nordic, Germanic, Latin, and Asian countries. The authors compare the differences among the groups and identify the similarities within different country groups.

Chapter 6 presents accounting harmonization, focusing on the impact of the different pressures on MNEs. The development of standards by the European Community, the Organization for Economic Cooperation and Development (OECD), the United Nations, and the International Accounting Standards Committee (IASC) is clearly discussed. In addition, the chapter identifies and discusses six participation groups that are interested in international accounting harmonization. The authors highlight the complexity and politics involved in the harmonization of accounting.

Chapter 7 discusses information disclosure and regulation from the perspectives of multinational management. While this chapter provides a good insight into the issues faced by MNEs in practice, the empirical study cited in the chapter on managerial attitudes to voluntary disclosures is limited to the United States and the United Kingdom. Information disclosure, as acknowledged by the authors, is still contingent on one's judgment and the political process.

Chapter 8–11 address international reporting issues relating to international business combination and consolidation, goodwill and intangibles, segmental reporting, and accounting for price changes and inflation. Radebaugh and Gray approach the presentation of these contemporary problems primarily by discussing the conceptual issues describing the major approaches or standards applied internationally, presenting the rationale behind each alternative practice, and discussing the comparative national practice. Further, international harmonization initiatives in these reporting issues are reviewed and the related IAS and EC directives are presented throughout these chapters.

Chapters 12 and 13 address foreign currency transactions, derivatives, and translation. Both are well-structured and clearly written without overwhelming readers with major empirical studies. Radebaugh and Gray present an excellent coverage of background information as to the terminology of foreign exchange and how the foreign exchange markets operate. Although accounting for financial instruments is not extensively covered, relevant sources are cited for future reference. Both the temporal method and current rate method are discussed in detail with appropriate use of examples.,

The next two chapters relate to international financial analysis. Chapter 14 is an interesting chapter regarding the impact of differences in accounting principles on the measures of assets and earnings. While the focus is on the United States and the United Kingdom, Japan and many Continental European countries are also examined. Chapter 15 highlights important issues found in the corporate review and illustrates international disclosures and financial analyses with several real-world examples.

Chapter 16–18 address international management accounting and control. Radebaugh and Gray emphasize organization structure and the importance of strategic control process in the management control of global operations. Although product costing and transfer pricing are adequately covered with some of the Japanese innovative costing methods such as target costing, the authors fail to incorporate the more recent US empirical study on performance evaluating and budgeting. The

study cited on this topic reveals that profit, rather than ROI or budget, is the most frequently used financial measure in evaluating foreign subsidiaries.

Chapter 19 addresses tax from the perspective of MNEs' strategic focus to fulfill MNEs' local tax codes and to operate in different tax environments around the world. The authors' excellent writing style in this chapter and clear illustrations make it a relatively easy chapter to read and comprehend. The key issues on taxation of the earnings of foreign operations, exports, and imports are well covered.

Chapter 20 highlights three key issues of external audit from an international perspective: the nature of the accounting and auditing profession, the organization of international accounting firms, and the audit process. The latter also incorporates the harmonization efforts on audit standards and practices.

The concluding chapter, chapter 21, outlines the emerging major issues. The authors discuss the problems of economic development encountered by the former Soviet Union and developing countries. Further, they raise several questions on key issues discussed earlier in the book.

In summary, Radebaugh and Gray have provided not just conceptual but also extensive real-world and empirical coverages on a wide variety of international accounting topics. The emphasis of presenting international accounting "in the context of multinational enterprises from a strategic perspective" is a unique feature of this book. Undergraduate students may find it relatively difficult to follow at the beginning. However, once they are attuned to this new way of learning accounting, they will find it very stimulating and thought-provoking. This book is a valuable contribution to international accounting and it is pedagogically appropriate for both undergraduate (upper division) and graduate studies.

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Readings in Accounting for Management Control, *edited by Clive Emmanuel, David Otley and Kenneth Merchant.* Chapman & Hall, London, 1992 680 pp., $39.95 US $49.95 Canada

This book of readings is intended to complement the authors' text 'Accounting for Management Control' by providing some deeper insights into the fundamental issues of accounting systems design and use that are raised in the text. Accordingly, familiarity with the text on the part of the reader will greatly enhance the value of the book of readings, but having said that, the reader coming to this collection *de novo* will also find much of interest. The authors have selected for inclusion both modern summary articles and older classic pieces, partly to give some flavor for the historical development of the subject, and this blending works very well. There are almost equal numbers of contributions from British and North American journals, with '*Accounting Organizations and Society*' providing a substantial number. In all, 30 articles are reproduced, authored by a total of 39 contributors.

Part One of the book, entitled "The Context of Management Accounting," consists of nine articles and focuses on the role of management accounting information as a means of exercising control both within and over organizations. This perspective is chosen partly because decision making and control can be seen as complementary aspects of accounting information use, but, more fundamentally, because decision making may be seen as just one part of a larger cycle of planning and control. The readings in Part One tend to move progressively from a fairly tight modelling of control process, as typified by the cybernetic tradition, towards a more diffuse framework characterized by attempts to exercise control in the context of a complex and uncertainty-ridden organization. Thus, featured here are contributions such as Ouchi's 'A conceptual framework for the design of organization control mechanisms" (*Management Science,* 1979), Otley's "The contingency theory of management accounting: achievement and prognosis" (*Accounting, Organizations and Society*, 1980) and Birnberg, Turopolec, and Young's 'The organizational context of accounting" (*Accounting, Organizations and Society*, 1983).

In summary, Part One identifies two strands in the control literature. The first is managerial in orientation, takes cybernetics as its fundamental theoretical framework, and results in prescriptions for controls that will establish organization order and stability. The second is pluralistic in orientation, regards control as emerging from the interaction of actors in a situation, and results in observations that are concerned to promote adaptation and learning. Both perspectives set the use of accounting information systems and controls in a wider context The readings in Part One demonstrate that whereas accounting controls have usually been designed as if they operated in a world that is perfectly understood, it is now evident they have to be used with care and flexibility, and in conjunction with other control mechanisms, in a world that is much more complex and uncertain than their designers anticipated.

The second section of the book addresses the issue of "Accounting for Programmed Decisions," where a good predictive model of the process being controlled is available. It includes six articles which, in sum, conclude that traditional management accounting techniques require far-reaching assumptions of the predictive ability of managers and their advisers to be made. The discussion focuses on budgetary control since it uses most of the usual management accounting techniques at some stage in its progression from planning to control. In addition, budgetary control is used in almost every organization of any size, and this is reflected in the number of studies on the topic in the research literature. Also, it was in the budgetary control area of management accounting that the impact of human and behavioural factors on the use of accounting information was first recognized and studied. Examples of articles from Part Two of the books are "Budgetary control and business behaviour" by Buckley and McKenna (*Accounting and Business Research*, 1972), "Measuring manufacturing performance: a new challenge for managerial accounting research" by Kaplan (*Accounting Review*, 1983) and "Management accounting and action" by Swieringa and Weick (*Accounting, Organizations and Society*, 1987).

To summarize, this section reveals that the impact of prevailing external circumstances appears to have more impact than was previously imagined, and individual personality and philosophy of management may be less important. Also, there is a pervasive need to develop more contingent theories of budgetary control

based on differences in organizational type, the environmental circumstances in which they operate, and the norms and values current both within the organization itself and within the society in which it is set. Overall, the conclusions of this section show that an organization requires a much more plausible interpersonal and social context, and identify prerequisites for generating a commitment to forceful action in an organization.

In Part Three of the book, on "Accounting for Non-programmed Activities," where there are nine articles, there is made explicit the recognition of uncertainty. The significance of dynamic market forces, changes in personnel, corporate strategy, and internal systems of control may, individually or in combination with other sources at any point in time, render the divisional management's decision-making task more or less programmed. These articles acknowledge that all decision-making under real assumptions requires a degree of intuition, judgment, and discretion. "Whether uncertainty influences the business enterprise to adopt a different organizational structure to the unitary or functional organization, whether this consequently causes complex interrelationships to merge in the internal operations of the organizations and whether the design of the accounting information system promotes behaviour congruence or provides an incentive for managers to emphasize short-term, quantified performance measures play a central role in the control process. The readings selected here follow this sequence." This framework, so described, is apparent in this section. Typical articles are "Industrial organization, corporate strategy and structure" by Caves (*Journal of Economic Literature*, 1980), "Profit measurement in divisionalized companies" by Scapens (*Journal of Business Finance and Accounting,* 1979), and "The achievability of budget targets in profit centres: a field study" by Merchant and Manzoni (*Accounting Review*, 1989).

Thus, the selection of readings in Part Three of the book provides a rich body of evidence testifying to the complexity of operating a multidivisional structure successfully. The bulk of these articles explicitly recognize uncertainty, and hence the non-programmed nature of divisional management decision-making. The underlying message is that accountants advocate the use of certain techniques at their peril if they do not take into account the strategic, behavioral, and organizational dimensions which are a central part of exercising effective control in today's large business enterprise. Part Three succeeds in conveying that message clearly to the reader.

The fourth and last section, entitled "A Framework for Analysis," consists of six articles and seeks to draw together the various arguments presented in earlier sections. This is done by building a normative framework to describe certain design characteristics for the accounting information system within the multidivisional firm. Where the adoption of an organizational structure is a response to uncertainty, then divisional general management should actively participate in planning and setting performance targets; evaluation of managerial performance should not be solely based on achievement of these targets and instead an emphasis on longer-term criteria is necessary. By these means the accounting information system can help to promote learning and contribute to a management control system which highlights behavior congruence. That is, it does not provide incentives for the divisional management to manipulate short-term performance indicators to show apparent improvements to further self-interest.

The selected readings in Part Four do not follow the above framework exactly. They reflect the variety and richness of design characteristics which the effective accounting information system is believed to encompass in order to enhance management control. Examples of articles, from this section, which demonstrate this richness are Parker's "Divisional performance measurement: beyond an exclusive profit test" (*Accounting and Business Research*, 1979), Gordon and Miller's "A contingency framework for the design of accounting information systems" (*Accounting, Organizations and Society*, 1976), and Simons' "The role of management control systems in creating competitive advantage: new perspectives" (*Accounting, Organizations and Society*, 1990). Thus, the readings in Part Four are an indication of how far accountants have to progress in order to develop a comprehensive framework to design accounting information systems which will ensure effective management control. They show that the array of potentially influential perspectives from strategy to subjective performance measures and from personal human control to incentive schemes is bewildering and requires the theorist to operate at more than one level of analysis simultaneously. A conclusion might be that an attainable aim in the near future is to be able to recognize when the need to change the design arises in order to maintain the form of management control deemed appropriate. What comprises the dimensions along which performance should be gauged, what measures or indicators are regarded as appropriate, and how they should be used are questions which will continually fuel the search for new answers.

On this positive, if cautious, note this book of readings closes. It is an admirable collection of important, and in some cases, classic, contributions to the literature of management control and accounting information systems. It can be read selectively as a supplement to the textbook or on its own as a summary of recent developments in the field. Either way, it is commendable.

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Financial Analysis for Development: Concepts and Techniques *by Michael Yaffey*. *Routledge, London and New York, 1992, 270 pp., $40.00*

This book, which contains 14 chapters and four appendices, explains in detail and concepts and techniques of analyzing proposals and projects in developing countries. The author has drawn on experience derived from working with multinational corporations in less developed countries (LDCs). It incorporates the perspectives of the aid donors and the residents of the countries whose expectations often do not coincide.

The author admits in the introduction that the phrase LDCs, which is used so extensively throughout the book, is unfortunate, because the techniques are applicable to a wide range of countries not normally included in this category by the UN definition of LDCs. It is believed that the book will be useful to practitioners, bankers, voluntary aid agencies, students, and academics who must consider or research the

problem of investment proposals in "Eastern and Central Europe, Africa, South America, Asia, and the Middle East."

Chapter 1 gives a background to the project cycle and the information systems that can be generated. The use of the computer programs for producing financial statements, such as *ex ante* forecasts, discounted cash flow statements, as well as *ex post* management accounting reports are highlighted.

Chapters 2–6 deal with the traditional financial statements – the income statement, the balance sheet, and the cash flow statement – in a non-traditional manner. Chapter 2 links the information for the income statements from a financial accounting viewpoint with that from management accounting. Using examples from agriculture and furniture manufacturing, the author illustrates how the volumes, yields, and the timing of the costs and revenues affect one another. Chapter 3 reveals the details of the income statement, and it introduces the "technical coefficient" which investment planners use to determine requirements of input for materials and labour.

Chapters 4 and 5 review the basic structure of the balance sheets, particularly where the shares are owned by the government. There is an interesting section on depreciation and replacement of fixed assets. The chain of causation in the estimation and use of cash is explored. Many enterprises have difficulty in prioritizing the tasks – maintaining adequate cash, short-term debt reduction, long-term debt reduction, and distributing a dividend. Here too limitations of using computer spreadsheets are noted.

Chapter 6 gives some theoretical concepts of cash flow accounting, shows how to derive *ex post* cash flow, and then discusses three varieties of cash flow statement: the cash flow statement in which cash is narrowly defined, the statement of source and use (application) of funds where funds include not only cash but other items, and the analytical cash flow statement which is designed specifically for *ex ante* studies.

Chapter 7 assesses the advantages and disadvantages of the usual different discounting techniques. The national cost of capital and a social rate of discount are two topics in the chapter not frequently associated with discounting,

Debt and the servicing of debt are of prime importance to LDCs. Chapter 9 explains the short-term and long-term arithmetic of disclosing and analyzing debt. It describes how the Miller–Modigliani model is suited only to highly developed markets and points to Kalecki's discourse on "the part played by limited finance in limiting the growth of an enterprise."

Chapters 9 and 10 address the optimum method of project design. This is best achieved by trial and error, taking into account environmental impact, product quality, costs of operation, and capital. The size of the project can be a limiting factor and the underlaying strategy behind starting small and growing is also considered.

Financial planning from the perspective of the banker (maximum equity) and the sponsor (minimum equity) are dealt with in Chapter 11. A comparison of the two strategies is shown and the conclusion drawn is that there is an "infinite range of solutions in financial planning, each of which may be considered optimum".

Chapter 12 addresses the issue of inflation; it compares and contrasts the work of economists and accountants in this area by considering constant prices and current

prices. The impact of exchange rates and inflation on imported goods is considered with South and Central America used as examples.

Chapter 13 approaches the issues of risk and sensitivity thoroughly. The author identifies the chief sources of uncertainty, indicates how contingency reserves can be used to reduce cost risks, use practical examples to show the meaning of covariance, explains the use of the Monte Carlo technique, introduces a theoretical model from the United States, and then recommends a simpler technique which would be more appropriate to LDCs. The terms project risk and country risk are also discussed.

Finally, in Chapter 14, a number of simpler techniques of financial appraisals are described. The attempt is not simply to save time, but to accelerate the process. Having worked in developing countries, the author is aware that there is usually a window of opportunity which will close if you are too late.

The appendices show a minimum equity spreadsheet to support the discussion in Chapter 11, explain how to analyze a multiple project situation, give a worked example of double counting in a public utility enterprise, and list a number of ratios under the headings of yield or profitability, performance, liquidity, debt security, and performance. In addition it gives public sector performance indicators which should be useful to readers who are involved with government projects.

Overall the book combines technical, financial, economic, and environmental skills, and an understanding of institutions to give guidance to those who may wish to be involved with schedules used for economic or social-cost benefit analysis.

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INSTRUCTIONS FOR AUTHORS

1. Manuscripts should be submitted in triplicate to the Editor, Professor V K Zimmerman, The International Journal of Accounting, 320 Commerce Building (West), University of Illinois at Urbana-Champaign, 1206 South Sixth Street, Champaign, Illinois 61820, USA.

2. The language of the journal is English.

3. Text should be typed double spaced on one side of the paper. A 3cm wide margin should be left at both sides of the text, 4cm wide margins at top and bottom of page. There is no maximum length for contributions but authors should write concisely.

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[1] William A. Dymsza, Multinational Business Strategy (New York: McGraw-Hill, 1972), 49-53.
[2] Geoffrey Holmes, "Replacement Value Accounting." Accountancy (March 1972), 4-8.

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American Institute of Certified Public Accountants. Accounting Research Bulletin No. 43. New York: AICPA, 1953.
__________. "Financial Statements Restated for General Price Level Changes." Statement of the Accounting Principles Board No. 3. New York: AICPA, 1969.
Lorenson, Leonard and Paul Rosenfield. "Management Information and Foreign Inflation." Journal of Accountancy, December 1974, 98-102.
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Global Financial Reporting Using a Composite Currency: An Aggregation Theory Perspective

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Key words: Composite currency; Global financial reporting; Foreign currency translation; Reporting currency; Exchange rates

Abstract: *This paper presents an argument that, for global corporations with semi-permanent foreign investments, the reporting currency should be a composite currency, not the home currency, since the latter assumes eventual repatriation of all foreign investments. Use of the home currency creates an anomaly that two companies with identical asset holdings worldwide but headquarters in two different countries may report a gain in one and a loss in the other solely due to one currency weakening and the other currency strengthening. The paper presents a method of choosing a composite currency and discusses implementation issues and accounting policy implications.*

Need for Composite Currency

In foreign currency translation, use of the currency of the parent company's home country is most common. This is proper only as long as the company's foreign investments are temporary. Many multinational corporations invest in foreign countries with the intent to stay in the countries semi-permanently. Truly "global" corporations operate worldwide with shareholders, employees, customers, and suppliers spread all over the world. For these global corporations, use of the home country's currency in foreign currency translation does not make sense. A simple illustration will suffice to show the point.

Two global corporations, Corporation X headquartered in Country A and Corporation Y headquartered in Country B, hold an identical set of assets, let us say, A$100 (million omitted) of Country A's currency and B$100 (million omitted)

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of Countrys B's currency at the beginning of a period. The two corporations' assets did not change at all during the period, but the exchange rate between the A-dollar and the B-dollar changed from A$1 = B$1 at the beginning to A$1 = B$2 at the end. X reports the beginning assets of A$200 and the ending assets of A$150 (as B$100 is now worth only A$50), or a loss of A$50. Y reports the beginning assets of B$200 and the ending assets of B$300 (as A$100 is now worth B$200), or a gain of B$100. The two economically identical companies report differently, often drastically differently, just because they are headquartered in different countries.

Use of a single currency cannot solve the difficulty whether it is domestic, foreign in which investment is made, or an independent third-country currency.[1] A composite currency can solve or at least mitigate the above difficulty.

The use of a composite currency in foreign currency translation and, more generally, for financial reporting of global corporation has been reported.[2] However, such a use is very much limited in the past and almost exclusively for internal use only. It is quite possible that in the future as such composite currencies as the European Currency Unit (ECU)[3] or Special Drawing Rights (SDR)[4] become popular, the use of a composite currency as a reporting currency may become widely accepted for global corporations.

As an aggregate of multiple currencies, use of a composite currency requires some understanding of the theory of aggregation. This paper relates practical issues of using a composite currency for financial reporting purposes with theoretical constructs of aggregation theory. Its aim is to offer key points with which one should be concerned in the actual use of composite currencies based on some theoretical results.[5]

Numerical Illustrations

Example 1

Let us use the above example involving the A-dollar and the B-dollar with the exchange rate of A$1 = B$1 at the beginning of the year and A$1 = B$2 at the end of the year. Let us also consider that there is a composite currency, a global-dollar or G-dollar, which consists of A$1 and B$1, that is:

G$1 = (A$1, B$1) (1)

Anyone tendering A$$x$ and B$$x$ can get G$$x$ and vice versa.[6] The composition of G$1 remains unchanged regardless of the fluctuation in the exchange rate between the two currencies. A company, like X or Y in the above example, hold a portfolio of currencies, (A$100, B$100), which is denoted by H:

H = (A$100, B$100) (2)

The holding remained unchanged throughout the year.[7] However, due to the change in the exchange rate, the following loss, gain, or none is reported depending upon which of A-dollar, B-dollar, or G-dollar is used as the reporting currency. This is shown in Table 1 and Fig. 1. Note that, at the end of the year, B$100 is worth A$50

Table 1. Valuation of (A$100, B$100) in A-dollars, B-dollars, and G-dollars

	Holding	Reporting currency		
		A-dollar	B-dollar	G-dollar
BOY A$1 = B$1	(A$100, B$100)	A$200	B$200	G$100
EOY A$1 = B$2	(A$100, B$100)	A$150	B$300	G$100
Gain or loss		A$50 loss	B$100 gain	None

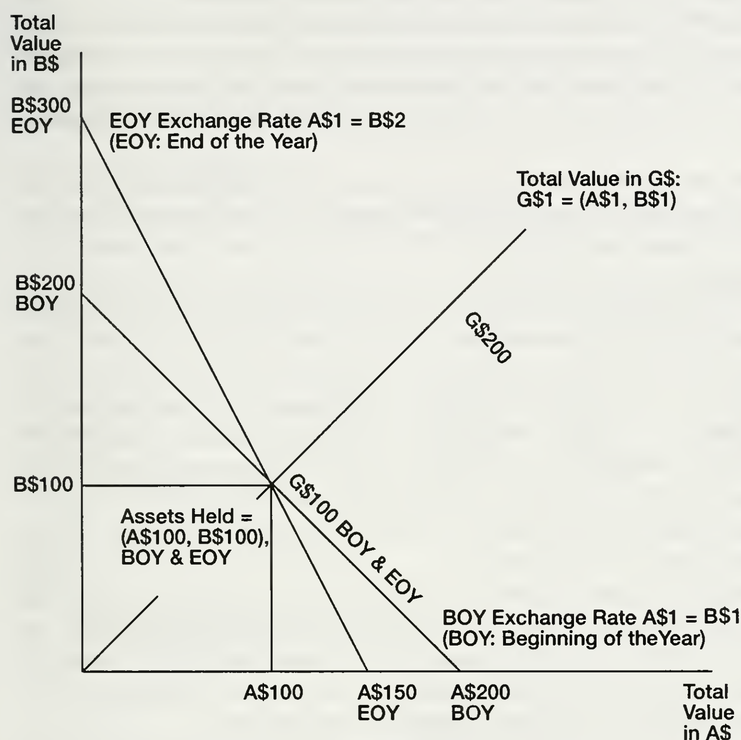

Fig. 1. Valuation of (A$100, B$100) in A-dollars, B-dollars, and G-dollars

and A$100 is worth B$200, as mentioned before, and that the value of the holding in the global currency is unchanged because the holding can be tendered for an exchange with G$100 at the beginning of the year as well as at the end of the year.

At the beginning of the year, the exchange rate was A$1 = B$1, hence G$1 = A$2 = B$2. At the end of the year, the exchange rate was A$1 = B$2, hence G$1 = A$1.50 = B$3. To see the latter point, at the exchange rate of A$1 = B$2, the holder of G$1 can exchange it for A$1 and B$1 and sell the B$1 for A$0.5, obtaining A$1.50 in total. Hence, G$1 = A$1.50. Likewise, the holder can obtain A$1 and B$1 and then sell the A$1 for B$2, obtaining B$3 in total. Hence, G$1 = B$3. The exchange rate is as equilibrium when G$1 = A$1.50 and G$1=B$3.

X reports a loss of A$50 because its foreign assets lost value from the viewpoint of the A-dollar. Similarly, Y reports a gain of B$100 because its foreign assets

gained value from the viewpoint of the B-dollar. These measurements make sense if X and Y intend to repatriate all investment back to their respective home country in the near future. If not, the gain or loss is deceiving. More specifically, if it is the objective of X or Y or both to remain invested in both countries at the ratio of, say 50–50, then there should be no gains or losses from an exchange rate fluctuation between the two currencies because a gain in one is offset by a loss in the other.[8] A measurement using G-dollar reports the no-gain, no-loss situation correctly, since a gain in one currency is offset equally by a loss in the other currency.

X reports a loss of A$50 but is compensated by the fact that it is in the unit of the A-dollar, a strengthened currency relative to the B-dollar. Y reports a gain of B$100 but is compensated by the fact that it is in the unit of the B-dollar, a weakened currency relative to the A-dollar. The composite currency has neither strengthened nor weakened.

Figure 1 depicts the three measurements in the A-dollar, B-dollar, and G-dollar of the portfolio of assets *H* = (A$100, B$100) both at the beginning of the year (BOY) when the exchange rate was A$1 = B$1 and at the end of the year (EOY) when the exchange rate was A$1 = B$2.

In Fig. 1, two "iso-value lines" are drawn: one for the exchange rate at the beginning of the year and the other for the exchange rate at the end of the year. An iso-value line means that, at the given exchange rate, any portfolio of currencies lying on the line has an equal value with any others lying on the same line. Any of (A$100, B$100), (A$150, B$50), or (A$50, B$150) lies on the line connecting A$200 BOY and B$200 BOY, hence they all have the same value at the beginning exchange rate of A$1 = B$1. Any of (A$100, B$100), (A$150, B$0), or (A$50, B$200) lies on the line connecting A$150 EOY and B$300 EOY, hence they all have the same value at the ending exchange rate of A$1 = B$2.

Note that there are no gains or losses for the year when measured in G-dollars because both iso-value lines cut across the G-Dollar line at exactly the same spot valued at G$100. On the other hand, measure in A$ (*X*-axis) or in B$ (*Y*-axis), the two iso-value lines cross the axes at different points, creating a A$50 loss in the A-dollar measurement and B$100 gain in the B-dollar measurement.

Generally speaking, a performance measurement must be congruent with the objective of the business; hence whether it is a good performance measure or not must be judged in relation to the objective. If it is the objective of the company to repatriate all foreign investments into Country A, the A-dollar should be used as the reporting currency. If it is the objective of the company to repatriate all foreign investment into Country B, the B-dollar should be used as the reporting currency. Then it logically follows that if the objective is to maintain investments in both countries at the 50–50 ratio, the G-dollar should be used as the reporting currency.

Perfect and Imperfect Reporting Currencies

In the above example, the mix of currencies held was in exact proportion as in the portfolio of currencies used in defining the G-dollar. In the next example, let us consider one in which this is not the case.

Example 2

All the details in Example 2 are exactly the same as those in Example 1 above, except that the portfolio of currencies held is changed from H = (A$100, B$100) as in Example 1 to:

$$H' = (A\$160, B\$40) \tag{3}$$

The corporate objective is, as before, to maintain a 50–50 investment portfolio in both countries. The new valuations using three currencies, A-dollars, B-dollars, and G-dollars, are shown in Table 2 and Fig. 2. In addition, both in Table 2 and Fig. 2, a new global currency G'-dollar is added. While G$1 = (A$1, B$1), the new composite currency G'$1 consists of:

$$G'\$1 = (A\$1.00, B\$0.25) \tag{4}$$

The discussion of this new composite currency will be introduced shortly.

Table 2. Valuation of (A$160, B$40) in A-dollars, B-dollars, G-dollars, and G'-dollars

		Reporting currency			
	Holding	A-dollar	B-dollar	G-dollar	G'-dollar
BOY A$1 = B$1	(A$160, B$40)	A$200	B$200	G$100	G'$160
EOY A$1 = B$2	(A$160, B$40)	A$180	B$360	G$120	G'$160
Gain or loss		A$20 loss	B$160 gain	G$20 gain	None

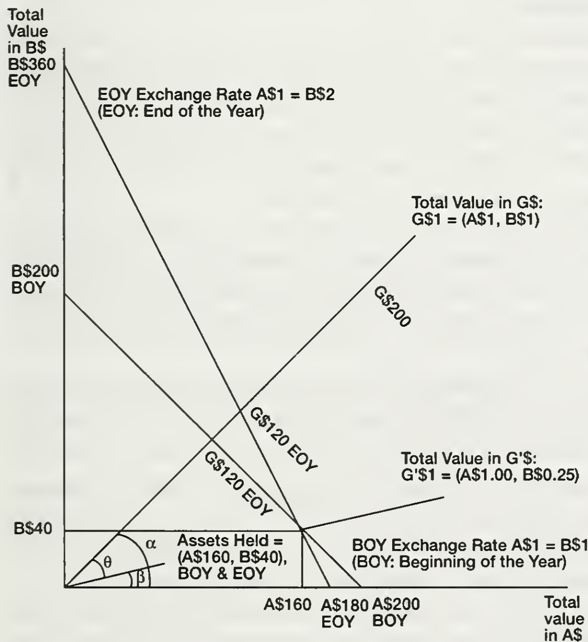

Fig. 2. Valuation of (A$160, B$40) in A-dollars, B-dollars, G-dollars and G'-dollars.

Now for the new holding H' = (A\$160, B\$40), a loss of A\$20 is reported under the A-dollar reporting currency. Under the objective of ultimately recovering all investments in A-dollars, the year-end holding can provide only A\$180 (A\$160 plus A\$20 from exchanging B\$40 at the year-end exchange rate of A\$1 = B\$2), whereas at the beginning the company could have recovered A\$200 (A\$160 plus A\$40 from exchanging B\$40 at the year-beginning exchange rate of A\$1 = B\$1). Similarly, for the new holding, a gain of B\$160 is reported under the B-dollar reporting currency which can be likewise verified.

The same approach can be used in understanding the meaning of the G\$20 gain under the G-dollar reporting currency. It is the objective of the company to end with a 50–50 investment portfolio even if actual holding may depart from it temporarily. Hence, at the beginning of the year, the holding of (A\$160, B\$40) is valued at G\$100. This is because a 50–50 portfolio of G\$100 = (A\$100, B\$100) is obtainable from the holding of (A\$160, B\$40) at the prevailing exchange rate of A\$1 = B\$1 by selling A\$60 for B\$60. At the end of the year, due to the new exchange rate of A\$1 = B\$2, the same holding of (A\$160, B\$40) can now generate G\$120 = (A\$120, B\$120) by exchanging A\$40 for B\$80.

Under the new G'-dollar currency, however, no gains or losses are reported. As shown in Fig. 2, both iso-value lines (BOY and EOY) path through a point on the G'-dollar line. Hence, the same total value is reported at the beginning and at the end of the year, resulting in no gains or losses.

This means that if it is the objective of the company to maintain a portfolio of assets between the two countries at the ratio of 80–20, then the G'-dollar is the right reporting currency to use. But if the objective is to maintain a 50–50 ratio, the G'-dollar distorts the improvement in the portfolio.

A general principle may now become evident. For an objective of a 50–50 portfolio, the G-dollar is a "perfect reporting currency," as it informs the user exactly the progress made along the 50–50 line of the portfolio mix. When an actual holding departs from this line of growth, the departure is eliminated by a hypothetical exchange of currencies using the exchange rate then prevailing. With respect to this objective, the G'-dollar is an "imperfect reporting currency," as it can distort the performance under some conditions.

The notion of perfect reporting currency is an example of a perfect aggregation defined in the aggregation theory. A perfect reporting currency is not unique, since G\$1 = (A\$1.00, B\$1.00) or (A\$10.00, B\$10.00) or (A\$0.50, B\$0.50) can all share the same property of a perfect reporting currency when the objective is to maintain a 50–50 portfolio of investments.

The composite currency G'\$1 = (A\$1.00, B\$0.25) is not perfect with respect to the 50–50 portfolio objective (although it is perfect with respect to the 80–20 portfolio objective). However, not all imperfect composite currencies are alike as some are closer to being perfect than others. Fig. 2 provides a hint that, for a composite currency G-dollar to be perfect, the angle of the G-dollar line must coincide with the angle of the objective portfolio line that the closeness of the angles of the two lines may be an indication of the composite currency close to being perfect. This is indeed true.

The degree of imperfectness can be defined and measured by the so-called *aggregation coefficient* ρ,[9] which for a two-currency case with the composition of the two currencies being C = (1, Q) and C' = (1, Q') is measured by:

$$\rho = \frac{1+QQ'}{\sqrt{(1+Q^2)}\sqrt{(1+Q'^2)}} \tag{5}$$

with $0 < \rho \leq 1$, when $Q \geq 0$ and $Q' \geq 0$, and with $\rho = 1$ (or $\rho = -1$, when liabilities are introduced, in which case $-1 \leq \rho \leq 1$) indicating a perfect aggregation.

In Table 2, between the G-dollar, which is (A$1, B$1) or $Q = 1$, and the G'-dollar, which is (A$1, B$1/4) or $Q' = 1/4$, ρ is $(1 + 1/4)/[\sqrt{2}\sqrt{(1+1/16)}] = \sqrt{(25/34)} = 0.8575$ and between the G-dollar and the A-dollar, which is (A$1, B$0) or $Q' = 0$, it is $1/\sqrt{2} = 0.7071$. The aggregation coefficient indicates that while the G'-dollar is not perfect with respect to the 50–50 growth line (the G-dollar line), it is "better" than the A-dollar as the aggregation coefficient for G' is closer to 1 than that for A.

If we represent by θ the angle between the G-dollar line and the G'-dollar line, ρ may be written as:[10]

$$\rho = 1/\sqrt{(1 + \tan^2\theta)} = \cos\theta/\sqrt{(\cos^2\theta + \sin^2\theta)} = \cos\theta \tag{6}$$

In terms of the degree of closeness to being perfect, ρ^2, the *aggregation effectiveness coefficient* is most useful. Here, ρ^2 between the G-dollar line and the G'-dollar line is $25/34 = 0.7353$ and that between the G-dollar line and the A-dollar line is $1/2 = 0.5000$. This is because ρ^2 indicates the fraction of the sum of squared errors that is eliminated by using the surrogate aggregation – nearly 3/4 of the sum of squared errors are eliminated when the G'-dollar is used, while only 1/2 is eliminated when the A-dollar is used. A more general discussion will follow shortly. However, some further illustration using the above numerical examples may clarify the matter before general formulations are discussed.

For any asset holding $H = (h_A, h_B)$, we may consider a "rate vector," $R_Z = (r_A, r_B)$ such that $R_Z H^* = (r_A, r_B)(h_A, h_B)^* = r_A h_A + r_B h_B$, where Z represents the particular reporting currency and * is the transpose of the vector, represents the total value of the holding using the prevailing exchange rate. Table 3 shows the rate vectors for all four reporting currencies, A-dollar, B-dollar, G-dollar, and G'-dollar, using exchange rates at the beginning of the year, at the end of the year, and for the net change during the year.

Composition of unit shows the content of each reporting currency, A-dollar and B-dollar each consisting of one unit of the respective currency, G-dollar consisting of A$1 and B$1, and the G'-dollar consisting of A$1 and B$0.25.

Components of rate vectors show the value of A$1 and the value of B$1, respectively, expressed in the unit of each reporting currency, value being determined by the prevailing exchange rate shown on the left. At the beginning of the year, A$1 = B$1, hence (1, 1) in both the A-dollar and B-dollar columns, while A$1 = B$1 = G$0.5, hence (1/2, 1/2) in the G-dollar column and A$1 = B$1 = G'$0.8 (since G'$1

Table 3. Rate vectors for four reporting currencies

Reporting currency Z Composition of unit (A$, B$)	A-dollar (1,0)	B-dollar (0,1)	G-dollar (1,1)	G'-dollar (1,0.25)
Rate vectors R_z = (A$,B$)				
BOY (A$1 = B$1)	(1,1)	(1,1)	(1/2,1/2)	(4/5, 4/5)
EOY (A$1 = B$2)	(1, 1/2)	(2, 1)	(2/3, 1/3)	(8/9, 4/9)
Net change during year	(0, –1/2)	(1,0)	(1/6, –1/6)	(4/45, –16/45)

can be converted into A$1.25 or B$1.25), hence (4/5, 4/5) in the G'-dollar column.

At the end of the year, A$1 = B$2, hence (1, 1/2) and (2, 1) in the A-dollar and the B-dollar columns. Similarly, A$1 = B$2 = G$1.5, hence (2/3, 1/3) in the G-dollar column. Finally, A$1 = B$2 = G'$1.125, hence (8/9, 4/9) in the G'-dollar column. The last row was obtained by subtracting the beginning of the year row from the end of the year row.

It may be seen that Tables 1 and 2 are both obtained when the asset holding H = (A$100, B$100) for Table 1 or H' = (A$160, B$40) for Table 2 is multiplied by the rate vectors in Table 3. For example, Table 1, Beginning of year, A-dollar: A$200 = (A$100, B$100) (1, 1)* and Table 2, Gain, G-dollar: G$20 gain = (A$160, B$40) (1/6, –1/6)* = G$120/6.

An appendix to this paper shows how this notion of "close to being perfect" can be quantified under a general formulation of aggregation so that its mathematical property can be understood more fully.

Implementation Issues and Accounting Policy Implications[11]

The fact that performance measurement depends upon the objective of the corporation may sound odd at first, but it would not take much time for us to realize that this is the nature of any performance evaluation. This is because performance measurement is fundamentally a measurement that reflects the progress toward a given objective. If the objective changes, the measurement should change as well.

It is not only proper but also necessary for the corporation to change the composition of the reporting currency as its global objective changes. For reporting purposes, changes in the reporting currency should be disclosed with suitable explanations in sufficient detail to enable investors to make reconciliations in a manner analogous to accounting changes.[12]

It would be ideal for a corporation to develop its own reporting currency for its internal performance evaluation.[13] For external reporting purposes, however, such a highly individualized reporting currency might reduce comparability of financial data across global corporations. Here, several major composite currencies might be developed as standard, allowing corporations to choose one among them that best fits their investment objective. Choice among them must be dictated at least in part by the degree of their closeness to being perfect in identifying where on the company's growth path its actual financial position is. Even this limited choice would be far better than the existing practice of forcing the corporation to use the home currency, which implicitly assumes eventual repatriation of all foreign investments in the future.

While the development of a composite currency will be necessary to express properly financial data of global corporations, the analysis presented in the paper suggests that, in the interim, efforts should also be directed toward unbundling of data when there was a major shift in exchange rates. If the exchange rates used are all at the same point in time, the users of financial data can accurately convert from one reported currency to another. It is when exchange rates at more than one point in time are used in aggregating data, such as the net income in the examples in this

paper involving the beginning- and the end-of-year rates, that problems are created for the users.

In conclusion, a choice of a reporting currency is an important accounting issue. For a global corporation which invests permanently in multiple countries, a reporting currency should not be the currency of its home country but should be a composite currency. Furthermore, a composite currency should be chosen among alternatives in such a way that the composition of individual currencies in the portfolio of the composite currency closely approximates the target asset holding of the corporation in the respective country. In this way, the investors are accurately informed of the progress made by the corporation along the growth line dictated by its objective.

It is highly recommended that the International Accounting Standards Committee (IASC) examine the reporting currency issue for global corporations. Global financial statements have three key ingredients: language, currency, and standards. So far, the IASC's efforts are directed solely toward harmonization of accounting standards. Such efforts can also be fruitfully directed toward harmonization of reporting currency and, eventually, toward harmonization of language as well.

Appendix: Linear Aggregation Coefficient

In this appendix, we analyze the essential point derived by numerical examples in the main text under a more general formulation. In general, the total value V of an asset holding is the sum of products of prices $p = (p_1, p_2,\ldots, p_n)$ and quantities $q = (q_1, q_2, \ldots q_n)$, i.e.:

$$V = pq^* = p_1q_1 + p_2q_2 + \ldots + p_nq_n \tag{7}$$

where * is, as before, for transpose. An aggregation problem occurs because V is not available but only its surrogate V' aggregated by using a different set of prices $p' = (p_1', p_2', \ldots, p_n')$:

$$V' = p'q^* = p_1'q_1 + p_2'q_2 + \ldots + p_n'q_n \tag{8}$$

The question is how useful V' is in determining V.[14] If q_is are independent random variables with mean $\bar{q}_i$ and variance σ_i^2 ($i = 1, 2, \ldots, n$), then an estimate of V, $\hat{V}$, determined by the following will be the best in the sense that it minimizes the expected value of squared errors:

$$\hat{V} = \alpha + \beta V' \tag{9}$$

$$\alpha = \sum (p_i - \alpha p_i')\bar{q}_i \tag{10}$$

$$\beta = \frac{\sum p_i p_i' \sigma_i^2}{\sum p_i' \sigma_i^2} \tag{11}$$

where all summations go from $i = 1$ to n. Without information on V', the best estimate that is available is:

$$\hat{V} = \alpha \tag{12}$$

The use of V' allows the user to reduce the sum of squared errors by the fraction ρ^2, a quantity called the *aggregation effectiveness coefficient*. Here ρ, the *linear aggregation coefficient*, is:

$$\rho = \frac{\sum p_i p_i' \sigma_i^2}{\sqrt{\left(\sum p_i^2 \sigma_i^2\right)}\sqrt{\left(\sum p_i'^2 \sigma_i'^2\right)}} \tag{13}$$

and when all σ_is are equal, (13) reduces to:

$$\rho = \frac{\sum p_i p_i'}{\sqrt{\left(\sum p_i^2\right)}\sqrt{\left(\sum p_i'^2\right)}} \tag{14}$$

where, as before, all summations go from $i = 1$ to n. [15,16]

In the case of currency translation, each asset expressed in a monetary amount, $s_i = p_i q_i$, is further multiplied by the exchange rate r_i, namely the translated total value W is the inner product of $r = (r_1, r_2, \ldots r_n)$ and $s = (s_1, s_2, \ldots, s_n)$:

$$W = rs^* = r_1 s_1 + r_2 s_2 + \ldots + r_n s_n \tag{15}$$

Here, exchange rates in $r = (r_1, r_2, \ldots, r_n)$ are stated as the value of a unit of currency i measured in the reporting currency as shown in Table 3, for example. As may be observed in this table, for any given point in time at which exchange rates are all determined uniquely, r depends upon the reporting currency only up to a scalar multiple. Hence, knowing r and the composition of reporting currencies, it is possible to identify W from a surrogate total value W' by rescaling it. Gain or loss must, however, be determined by first identifying the total value of the asset holding at two different points in time and then making a subtraction to determine the net change.

While this is the case when exchange rates are all unique at any given point in time, this is not always the case in accounting records and reports since exchange rates used in foreign currency translation need not be limited to prevailing rates at the end of the year. Averages of the year rates as well as historical rates are also used. Rates may be updated monthly or even daily. A mixed use of the current rate method and the temporal method complicates the matter further.[17] The breakdown of assets holding by the types of currency they are linked to is normally not disclosed.[18]

In the aggregation theory, the exact forms of the two aggregation functions, one being a principal and the other a surrogate, are assumed to be known. This knowledge is used in determining V from V' or W from W' without knowing the actual value of the variables q or s. The complexity of exchange rates and the way they are mixed in the accounting process makes it difficult to identify the two aggregation functions. However, a choice of a good reporting currency improves the situation.

Note that because of symmetry between price and quantity, (7) may be viewed as defining a function $p(q)$ which takes q as its argument or defining a function $q(p)$ which takes p as its argument. Likewise, (15) may be viewed as defining (i) a function $r(s)$ which takes s as its argument or defining (ii) a function $s(r)$ which takes r as its argument.

For the current problem of choosing a composite currency, the problem may be viewed as the issue of congruence between two functions $s(r)$ and $s'(r)$, both functions taking exchange rates as their argument. Then by choosing a reporting currency whose currency components, s', are closer to being proportional to the company's asset holding, s, the aggregation is improved regardless of how exchange rates fluctuate.

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Notes

1. The last alternative, the use of a third-country currency, say, C-dollars, for all corporations, avoids the problem of two identical sets of assets having been differently translated. However, it has a conceptual problem of what the translated amount means when the corporation has nothing to do with the third country.
2. Royal Dutch/Shell, as part of their efforts to develop "world" accounting principles on their own, is using, for financial statements for internal use, a composite currency consisting of a dozen currencies weighted by the amount of Shell's sales in each country. See Mueller et al. (1991).
3. See, for example, Edison (1986) and Klein and Müller (1992) for discussions on ECU as a currency basket and related issues on its composition.
4. See Cooper (1987) on the use of SDR as a currency unit.
5. See Ijiri (1983) for a comprehensive discussion on the historical transitions of accounting standards on foreign currency translation and the fundamental structure of foreign currency translation problems.
6. This is the same as a portfolio of Standard & Poor 500 stocks in the index options trading. Not only can it be bought or sold in the market, but a share of S&P 500 can be exchanged for a basket of comparable shares of its component stocks and vice versa.
7. Although the asset holdings are here all currencies for ease of illustration, types of asset are not limited to currencies but can include any types of assets and even liabilities, which will be shown in negative values. More details will be discussed in a later section of this paper when general aggregation formulations are discussed.
8. To be strictly correct, a continual shifting of assets from one country to another is needed so as to maintain a 50–50 portfolio as the value of the assets changes. The statement in the main text is presented as a simplification. Although a measurement in G-dollar is always G$100 as long as it is defined as G$1 = (A$1, B$1), the G-Dollar begins to lose its suitability as an aggregation method for the two companies' asset holding if one currency continues to deteriorate its value against the other. A discussion on this subject must, however, be postponed until the next section, which introduces the so-called aggregation error, and its magnitude.
9. See Ijiri (1968) for a discussion of the linear aggregation coefficient, which is viewed as the dual of the linear correlation by reversing the role of variables and functionals.
10. This may be seen from the fact that, defining α as the angle between the G-dollar line and the A-dollar line and β as the angle between the G'-dollar line and the A-dollar line, and using $\tan\alpha = Q$ and $\tan\beta = Q'$, we have

    $$\tan\theta = \tan(\alpha - \beta) = (\tan\alpha - \tan\beta)/(1 + \tan\alpha\tan\beta) = (Q - Q')/(1 + QQ')$$

    which may be substituted in (6) to obtain (5).
11. This section was added based on the suggestion to add the development issues of the composite currency by two anonymous referees of this journal, to whom the author expresses appreciation.
12. Changes in the functional currency of a foreign subsidiary might have similar characteristics to changes in the reporting currency but the latter, of course, has an impact on all units of the corporation, not just a subsidiary.
13. The idea of using the company name as the unit of the reporting currency of the company was suggested to the author by Mr. Keiichi Komiya, Senior Executive Vice President of Toshiba Corporation. For example, if Toshiba Corporation develops its own composite currency, it may be called "Toshiba." The

Corporation may report its income as, say, T5 000 000, or 5 million Toshiba. Here, one Toshiba is a basket of fixed amounts of several major currencies. The use of the company name in the reporting currency seems to reflect the company-specific nature of the currency very well and connotes the unit of achievement toward the company objective.

14. See Theil (1954) for the early comprehensive discussions of linear aggregation. See also Rosenblatt (1960). See Ijiri (1968, 1975) for a general formulation of aggregation problems, use of generalized inverses, for linear aggregations, and their applications to accounting. See also Ijiri (1971) for a survey of over 100 articles in economics and other social science fields classifyinging them based on the fundamental aggregate queries raised in the articles. Finally, see Penrose (1955) for generalized inverses and their mathematical properties.
15. The formula was used in (6) for illustration using the examples introduced earlier. (Note that each coefficient p_i can be adjusted by multiplying it by σ_i, to use (14) for cases where variances are known but not all equal.) Since coefficients and variables are stated most generally, they may assume negative values. In the case of asset holdings, negative values may be used to represent liabilities to deliver the indicated amount of goods or services.
16. Note that the formula for the linear aggregation coefficient is identical to that for the linear correlation coefficient; in the former the formula is applied to a function space (each point in the space representing a function) and in the latter, to a variable space.
17. Mehta and Thapa (1991) report the difficulty in making comparisons among multinationals because of the flexibility allowed in the choice of functional currency and frequent switches of functional currency. Kirsch and Johnson (1991) report that a wide variety of rate alternatives are used even with the same multinational firm. See also Abdel-Magid and Cheung (1986).
18. Segment reporting based on geographical regions of the world can give a rough idea about the distribution of assets but not fine enough to identify the currency linkage.

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The International Journal of Accounting

A Profile, Annotated Bibliography, and Index of Accounting Research on Developing Countries: 1965–1990

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Key words: Accounting research; Bibliography; Developing countries; History; Research; Research methodology

Abstract: *This paper provides, first, a historical perspective of accounting research relating to developing countries as seen from the vantage of the leading international journal in the United States and, second, a bibliographical data base and index of 26 years of articles on this region of the world. It accomplishes the first objective by presenting a tabular profile of research in international accounting as it pertains to developing countries as defined by the World Bank, 1990. Articles are published in* The International Journal of Accounting *(formerly,* The International Journal of Accounting, Education and Research*) and related publications which appeared from 1965 to 1990. The articles are classified according to country, research methodology, subject, and five-year time periods. The paper accomplishes the second objective by providing an annotated bibliography of 101 articles on developing countries and indices by country and methodology, and subject.*

In recent years research interest concerning accounting in developing countries has increased. This paper aims to place research relating to developing countries in historical perspective by giving a profile of research on this topic as published from 1965 to 1990. Research is classified by country, research methodology, subject, and five-year time periods. The second objective of this paper is to provide a data base resource for future research of developing countries. To achieve this second objective, the paper contains an annotated bibliography and an index of all research (101 articles, in all) published over the 26-year period in *The International Journal of Accounting* (formerly, *The International Journal of Accounting, Education and Research*) and related publications. The indices classify the articles according to country and methodology, and subject.

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Source of Data

The *International Journal of Accounting* (formerly, the *International Journal of Accounting, Education and Research*) was chosen for this study because it has the longest continuous history of published research in international accounting and for most of this time period was, in fact, the only outlet for this type of research in the United States. In his "Note from the Editor" in the first issue (Vol. 1, No. 1, Fall 1965), V.K. Zimmerman described the mission of the journal as being "To explore and identify the international dimension of accounting as it exists today." Assuming this statement to be true, the research published in this major source of international accounting research should reflect developments and changes in the attention given by researchers to various international subjects, countries, and methodologies. For most of the history of the journal, one issue per year has been devoted to the proceedings of the Seminar in International Accounting conducted annually at the University of Illinois. In some years and more recently, the proceedings have been published as separate monographs. Since the research represented in these proceedings represents, in effect, an extension of the journal, the articles contained therein are included in this study. Through 1990, a total of 596 articles have been published in this journal and related monographs. Of these articles, 101 were devoted to countries classified by the World Bank (1990) as economically developing. This study is limited to those 101 articles.*

Classification

Countries were classified as developing by the 1990 World Bank publication *Trends in Developing Economies 1990*. They were as follows:

Asia (in general)	Fiji	Nauru	South Korea
ASEAN Countries	Hong Kong	New Zealand	Taiwan
Australia	India	Niue	Thailand
Bangladesh	Indonesia	Oceania	Tonga
Brunei	Japan	Pakistan	Tuvalu
China	Kiribati	Philippines	Vanautu
Cook Islands	Korea	Singapore	Western Samoa
Far East	Malaysia	Solomon Islands	

* The number includes articles published within volumes 1–25 of *The International Journal of Accounting, Education and Research*. It also includes articles from the following:

- *The Multinational Corporation: Accounting and Social Implications*, 1977
- *The Impact of Inflation on Accounting:* A Global View, 1979.
- *Managerial Accounting: An Analysis of Current International Applications*, 1984.
- *The Recent Accounting and Economic Developments in the Middle East*, 1985.
- *The Recent Accounting and Economic Developments in Western Europe*, 1985.
- *The Recent Accounting and Economic Developments in the Far East*, 1988.
- *Comparative International Accounting Educational Standards*, 1990.

Upon analysis, the articles are classified according to methodology and subject. Articles which use more than one methodology are classified according to the predominant approach followed. Methods are classified according to the predominant approach followed. Methods are classified according to the following types:

(1) *Capital markets:* Articles which utilize the stock market in some way to determine the effects of other factors.
(2) *Deductive descriptive:* Articles primarily written as essays that describe current practice.
(3) *Empirical descriptive:* Articles which make use of a survey or questionnaire.
(4) Empirical statistical: Articles which involve the statistical analysis of empirically obtained data.
(5) *Historical:* Articles which focus on an area of current interest, but use an archival method, or trace the history of a subject.
(6) *Modeling:* Articles in which a model is developed.
(7) *Theoretical:* Articles which are a theoretical discussion of the topic.

The classification of subjects is as follows:

Accounting education
Accounting history
Accounting theory
Auditing
Financial accounting and reporting
Information systems
Managerial accounting
Miscellaneous
Professional development
Public accounting
Social effects of accounting
Taxation

The study has been divided into five time periods: 1965–1970, 1971–1975, 1976–1980, 1981–1985, 1986–1990.

Results

The first objective of this paper is to provide perspectives on accounting research related to developing countries during the period 1965–1990. To meet this objective, the following graphs and tables are provided with this paper:

Table 1 divides this article into subject, methodology, and five-year time period.

Table 2 shows, by five-year time period, the total number of articles in *The International Journal of Accounting*, the number of developing articles published, and the percentage of developing articles in relation to the total.

Table 3 separates the developing country articles into the countries to which they pertain. As noted, many articles deal with more than one country.

Table 4 lists the most referenced authors. All authors who have two or more published articles in the study are disclosed.

Table 5 shows the total articles by five-year time period classified by subject.

Table 1. Classification by subject and methodology

	Capital markets					Deductive descriptive					Empirical descriptive					Empirical statistical				
Years	65	71	76	81	86	65	71	76	81	86	65	71	76	81	86	65	71	76	81	86
Accounting education						3		2	2	2					2					
Accounting history										1										
Accounting theory									1	1										
Auditing								1		1				2	1					1
Economics and development						2	4	2	4	4		1								
Financial accounting and reporting				1		3	3	6	8	3					1				3	1
Governmental									1											
Managerial accounting									2	2										
Miscellaneous																				
Professional development									2	2										
Public accounting						1	2		1											
Social effects of accounting								1												
Taxation										1										
Total	0	0	0	1	0	9	9	12	21	17	0	1	0	2	4	0	0	0	3	2

A second objective of this paper is to provide a resource for scholars studying accounting in developing countries. To accomplish this objective, an annotated bibliography of the 101 articles published from 1965 to 1990 is provided with this paper. In addition to the bibliography, two indexes are provided. The first index provides a breakdown of the articles by country and methodology and the second index classifies the articles by subject.

Overall, researchers have given increased attention to the topic of developing countries as evidenced by the growing number of articles devoted to this topic over the 25-year period. As shown in Table 1, deductive descriptive has been the predominant methodology used in every time period, peaking in 1981–1985 when it was employed by 70 percent of the total articles. Overall, 68 of the 101 articles, or 67 percent, use this methodology, with all subjects except miscellaneous employing it. No other methodologies have been utilized in all periods; however, theoretical was used in all periods except in 1976–1980. Capital markets and modeling have been used the least throughout the 25 years. Only one article employed the capital market methodology in 1981–1985, and one article in modeling in 1976–1980. Both empirical descriptive and empirical statistical methodologies were employed primarily in the last two periods.

Table 1. Continued

Historical					Modeling					Theoretical					Totals on all subjects				
65	71	76	81	86	65	71	76	81	86	65	71	76	81	86	65	71	76	81	86
										2					5	0	2	2	4
				1											0	0	0	0	2
														1	0	0	0	1	2
															0	0	1	2	3
		1								5			2		7	5	3	6	4
	1									1			1	2	4	4	6	13	7
															0	0	0	1	0
															0	0	0	2	2
							1								0	0	1	0	0
															0	0	0	2	2
															1	2	0	1	0
															0	0	1	0	0
										1	1				1	1	0	0	1
0	1	1	0	1	0	0	1	0	0	9	1	0	3	3	18	12	14	30	27

Table 2 illustrates that from 1965 to 1970 18 articles in *The International Journal of Accounting* were devoted to developing countries. The number of articles actually decreased in the next two periods and jumped significantly in the 1981–1985 period. The number of articles increased from 14 in 1976–1980 to 30 articles during 1981–1985, an increase of over 53 percent. During 1986–1990 27 articles were written, representing 22 percent of the total number of articles in *The International Journal of Accounting.*

Table 3 shows that, among individual countries, the most attention has been given to China, Egypt, Poland, Mexico and Thailand. China represents the most significant growth, from two articles in 1965–1970 to nine articles in 1986–1990. As a percentage of the total articles written concerning developing countries over the 25-year span, China represents over 11 percent. Egypt is the second most discussed country, at 9.4 percent. The breadth of countries covered has increased also in the last 10 years. Articles have appeared on Bangladesh, Barbados, Kenya, Malaysia, Philippines, Solomon Islands, Tonga, Zambia and Zimbabwe.

Table 4 shows all authors, 12 in number, that had at least two articles on the topic of developing countries during the 25-year period. Only three authors had as many as three, with Alicja Jaruga having the most with four articles. The majority of articles were written during the last three periods.

Table 2. Developing country articles in the International Journal of Accounting

Time Period	Total number articles in IJA	Developing country articles	Developing articles in IJA (%)
1965–170	102	18	17.6
1971–1975	100	12	12
1976–1980	131	14	10.7
1981–1985	142	30	21.2
1986–1990	121	27	22.3
Total	596	101	17

Table 3. Articles by Developing country

	1965–1970	1971–1975	1976–1980	1981–1985	1986–1990	Total of total	Percentage
Argentinia			1	1		2	1.56
Bangledesh					2	2	1.56
Barbados					1	1	0.78
Botswana				1		1	0.78
Chile			2			2	1.56
China	2		1	3	9	15	11.72
Colombia			1			1	0.78
Cyprus				1		1	0.78
Egypt	1		1	7	3	12	9.38
Ethiopia		1				1	0.78
Fiji					1	1	0.78
Ghana			2			2	1.56
Guatemala					1	1	0.78
Kenya				1		1	0.78
Korea	1	1		1	1	4	3.13
Malaysia				1	2	3	2.34
Mexico		1	2	1	4	8	6.25
Nigeria				1		1	0.78
Pakistan		1		1	2	4	3.13
Panama		1			1	2	1.56
Philippines				2	3	5	3.91
Poland		2	3	3	1	9	7.03
Solomon islands				1	1	2	1.56
Sudan				1		1	0.78
Thailand	3	1	1		2	7	5.47
Tonga					1	1	0.78
Tunisia	1	1				2	1.56
Turkey			1	1		2	1.56
Uruguay			1	1		2	1.56
Venezuala				1		1	0.78
Western Samoa					1	1	0.78
Yugoslavia			1	2		3	2.34
Zambia					1	1	0.78
Zimbabwe					1	1	0.78
General: developing and emerging	10	4	2	6	3	25	19.53
Total	18	13	19	37	41	128	100

Note: Some articles mention more than one developing country.

In subject coverage as shown by Table 5, two areas have been discussed during all five time periods: economics and development, and financial accounting. The periods of 1981–1985 and 1986–1990 featured the most subjects (nine out of the 13 possible). Also in Table 5, trends in the coverage of many subjects are quite evident. Accounting education, while a popular subject in the 1965–1970 period with five articles, dropped substantially in the next three periods. However, the number of articles again increased to four in the 1986–1990 period. Accounting history, theory, and professional development were all represented in the last decade but not in the first 15 years. Financial accounting and reporting received the most attention, increasing over 53 percent from the 1976–1980 period to the 1981–1985 period.

Table 4. Most referenced authors

Name	No. of articles	Years	Reference
Berry, Maureen	3	1982, 1988 ,1985	11, 12, 13
Bristol, Richard	2	1978, 1984	15, 16
Cheng, Philip	2	1971, 1973	21, 22
Farag, Shawki	3	1968, 1985, 1988	30–32
Fekrat, M.	2	1985, 1989	33, 34
Jaruga, Alicja	4	1972, 1974, 1976, 1979	54–57
Markell, William	2	1968, 1985	67, 68
Meek, Gary	2	1983, 1985	71, 72
Ninsuvannakul, P.	2	1966, 1988	79, 80
Rivera, Juan	2	1982, 1990	85, 86
Turk, Ivan	2	1976, 1982	95, 96
Wong-Boren	2	1984, 1987	98, 99

Table 5. Classification by subject and time period

	1965–70	1971–75	1976–80	1981–85	1986–90	Total
Accounting education	5	0	2	2	4	13
Accounting history	0	0	0	0	2	2
Accounting theory	0	0	0	1	2	3
Auditing	0	0	1	2	3	6
Economics and development	7	5	3	6	4	25
Financial accounting and reporting	4	4	6	13	7	34
Governmental	0	0	0	1	0	1
Managerial accounting	0	0	0	2	2	4
Miscellaneous	0	0	1	0	0	1
Professional development	0	0	0	2	2	4
Public accounting	1	2	0	1	0	4
Social effects accounting	0	0	1	0	0	1
Taxation	1	1	0	0	1	3
Total	18	12	14	30	27	101

The final period decreased by 46 percent; however, at seven articles it was still the most predominantly reported subject during 1986–1990. Economics and development was the other heavily reported subject. Articles averaged five per year, with the largest number of articles during 1965–1970, and the lowest during 1976–1980. Governmental and the social effects of accounting appear to be neglected as subjects throughout the 25-year period. This trend has been for articles to have increased during the last decade.

Summary

This paper examines accounting research related to developing countries over a 25-year period as represented by articles published in an international journal in the United States. It also provides an annotated bibliography with country and methodology and subject indexes of the 101 articles.

Index 1: Articles by Developing Country and Methodology

Argentina
- Deductive descriptive: 18, 47

Bangladesh
- Deductive descriptive: 38
- Theoretical: 84

Barbados
- Deductive descriptive: 20

Botswana
- Deductive descriptive: 68

Chile
- Deductive descriptive: 47
- Modeling: 61

China
- Deductive descriptive: 9, 21, 25, 30, 41, 50, 51, 58, 64, 66, 93, 100
- Historical: 12
- Theoretical: 63, 90

Colombia
- Modeling: 61

Cyprus
Empirical descriptive: 10

Egypt
Deductive descriptive: 3, 6, 16, 26, 31, 42, 44, 74
Empirical descriptive: 1, 10
Empirical statistical: 4
Theoretical: 87

Ethiopia
Deductive descriptive: 59

Fiji
Deductive descriptive: 97

Ghana
Deductive descriptive: 37
Historical: 73

Guatemala
Deductive descriptive: 2

Kenya
Empirical descriptive: 10

Korea
Deductive descriptive: 22, 65
Empirical descriptive: 77
Empirical statistical: 82

Malaysia
Deductive descriptive: 80
Empirical descriptive: 43, 77

Mexico
Deductive descriptive: 36, 47, 98
Empirical statistical: 23, 99
Theoretical: 33, 40
Historical: 76

Nigeria
Deductive descriptive: 52
Empirical descriptive: 10

Pakistan
Deductive descriptive: 44, 89
Empirical descriptive: 83

Panama
Deductive descriptive: 24
Empirical descriptive: 85

Philippines
Deductive descriptive: 80, 89
Empirical descriptive: 77
Empirical statistical: 72
Capital markets: 71

Poland
Deductive descriptive: 11, 13, 39, 54, 55, 56, 69
Empirical statistical: 4
Theoretical: 57

Solomon Islands
Deductive descriptive: 46, 97

Sudan
Deductive descriptive: 34

Thailand
Deductive descriptive: 48, 60, 79, 80, 88
Empirical descriptive: 77
Theoretical: 101

Tonga
Deductive descriptive: 97

Tunisia
Deductive descriptive: 48
Theoretical: 78

Turkey
Deductive descriptive: 17, 81

Uruguay
Deductive descriptive: 19
Modeling: 61

Venezuela
Deductive descriptive: 86

Western Samoa
Deductive descriptive: 97

Yugoslavia
Deductive descriptive: 69, 95, 96

Zambia
Empirical descriptive: 10

Zimbabwe
Empirical descriptive: 10

General: developing and emerging countries
Deductive descriptive: 5, 8, 14, 15, 31, 35, 45, 49, 53, 59, 62, 67, 70
Empirical descriptive: 94
Theoretical: 7, 27, 28, 29, 32, 75, 87, 91, 92

Index 2: Articles by Subject Developing Countries

Accounting Education
1, 20, 25, 37, 38, 58, 67, 68, 79, 81, 85, 92, 101
Accounting history
12, 98
Accounting theory
9, 18, 33
Auditing
10, 23, 43, 56, 64, 77
Economics and development
2, 5, 14, 15, 22, 28, 29, 32, 34, 45, 48, 49, 52, 53, 70, 73, 75, 78, 83, 87, 88, 91, 93, 95, 97
Financial accounting and reporting
4, 8, 11, 16, 17, 19, 21, 30, 31, 35, 36, 39, 40, 47, 50, 51, 54, 55, 57, 60, 62, 63, 65, 66, 69, 71, 72, 76, 82, 84, 90, 94, 96, 99
Government
26
Managerial accounting
13, 86, 89, 100
Miscellaneous
61
Professional development
41, 46, 74, 80
Public accounting
6, 24, 42, 59
Social effects of accounting
3
Taxation
7, 27, 44

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   Note: empirical descriptive.
   Description of the social, political, and professional influences on accounting education in the Middle East.
2. Aguirre, Alejandro and Hagigi, Moshe, Guatamala/United States (Megasistemas International, S.A./Francisco Marroquin University, Guatamala/Boston University), "Accounting, Economic, and Environmental Determinants of Financial Reporting Practices in Guatamala [economics and development]. *International Journal of Accounting* (March 1987, Vol. 22, No. 2), 169–191.
   Note: deductive descriptive
   Description of the economic, environmental, and legal factors affecting accounting practice in Guatemala.
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   Note: deductive descriptive
   Discussion of the controlled accounting system in Egypt. Concludes that the current system in Egypt does not properly evaluate management's use of resources.
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   Note: empirical statistical
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   Note: deductive descriptive
   Presentation and discussion of national-investment-price planning and control in the Middle East.
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   Note: deductive descriptive
   Discussion of the changes in the economic system of Egypt that have resulted in basic changes in the accounting profession, particularly after July 1961.
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   Note: theoretical
   Study of how accounting can become an integral part of the central planning process in newly emerging nations, as it has been in Sweden. Also explores how such planning can defeat the purposes of sound principles of accounting, even though national objectives may be accomplished.
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   Note: deductive descriptive
   Study of the accounting needs for developing countries. Finds that the fulfilment of these needs must come from the government of each country.
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   Note: Deductive descriptive
   Brief history of the accounting profession in China and a description of current bookkeeping, managerial accounting, and auditing theories.

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Note: empirical descriptive.
Study of international auditing firms regarding their structure, and market. Lists findings by firms.

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Note: deductive descriptive.
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Note: historical.
Study of the relationship between the changes in Chinese society and changes in Chinese accounting. Considers the effect of social, political, and economic pressures on the current accounting function.

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Note: deductive descriptive.
Description of the 1980 reorganization of the accounting function in Poland

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Note: deductive descriptive.
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Note: deductive descriptive.
Discussion of the development of national accounting systems. Concludes that the accounting system should be developed for a nation's needs, but that most of the development in this area has been towards international practice.

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Note: deductive descriptive.
Discussion of the factors affecting the development of the accounting system in Egypt.

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Note: deductive descriptive.
Discussion of recent developments affecting the accounting profession in Turkey. Concludes that the changes in the legal structure and the economy have affected accounting practice significantly.

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Note: deductive descriptive.
Examination of the various effects of inflation accounting on the historical cost model. Concludes that the historical cost model is still appropriate.

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Note: deductive descriptive.
Description of the accounting system in Uruguay. Describes internal and external conflicts in the development of the Uruguayan system.

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Note: deductive descriptive.
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Note deductive descriptive.
Study of the modern accounting profession in Nationalist China which attempts to further the goal of better communications among nations.
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Note: deductive descriptive.
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Note: empirical statistical.
Study recording firm size and audit quality in Mexico. Finds that audit quality increases as a firm gets larger.
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Note: deductive descriptive.
General overview of the accounting principles and practices in Panama.
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Note: deductive descriptive.
Study of the objectives of educational institutions that provides statistical data to show the present conditions of these institutes and that evaluates the present accountancy education system and suggests ways to remedy the defects.
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Note: deductive descriptive.
Discussion of the governmental accounting systems in the Arab countries as proposed by the Arab Organization of Administrative Sciences in 1980.
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Discussion of four requirements for developing countries striving for a higher rate of growth including increased savings, foreign exchange, entrepreneurship, and infrastructure. Stresses the importance of government and taxation.
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Note: theoretical.
Examination of the particular problems of financing a new company in Northeast Brazil, centering on what happens when local, sources provide all of the funds.
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Note: theoretical.

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Note: deductive descriptive.
Description of developments in China affecting the accounting profession.
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Note: theoretical.
Critique of favored project financing in developing countries, which offers a proposal for general development financing.
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Note: theoretical.
Presentation of the accounting profession's reaction to the less developed countries debt crisis.
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Note: deductive descriptive.
Comparison of a study of the Iranian accounting system before the 1978–79 revolution with a study of developing countries conducted by the American Association of Accountants. Concludes that accounting education must undergo further development in these countries.
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Note: deductive descriptive.
Discussion of the accounting policies of the Mexican company VISA.
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Note: deductive descriptive.
Study of the current method of educating accountants in Ghana. Concludes that the current methods are inadequate and calls for reforms.
38. Ghosh, Santi Narayan, Bangladesh (University of Dhaka, Bangladesh), "A Comparative International Study of the Education of Professional Accountants: A Case Study of Bangladesh [accounting education]." *Comparative International Accounting Educational Standards.* (Champaign, IL: Center for International Education and Research in Accounting, (April 1990), 97–108.
Note. deductive descriptive
Discussion of the accounting educational system of Bangledesh. Gives an institutional view of the current system.

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    Note: deductive descriptive.
    Discussion of the history and effects of inflation accounting on the Polish economy.
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    Presentation of a translation methodology contending that historical rates should be used for translations involving differences in international inflation rates and current rates should be used when terms of trade are altered.
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    Note: deductive descriptive.
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    Note: deductive descriptive.
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    Note: empirical descriptive.
    Survey of financial statement users in Malaysia to determine their perception of the auditor's independence.
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    Note: deductive descriptive.
    Discussion of the Saudi Arabian tax accounting system which compares the system with those used in other Middle Eastern countries.
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    Note: deductive descriptive.
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    Note: deductive descriptive.
    Discussion of the development of the accounting profession in the Solomon Islands. Holds that modernizing and building a more indigenous accounting profession is necessary for the economic development of the Solomon Islands.
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    Note: deductive descriptive.
    Study of the methodology used by each company for inflation accounting. Contends that most countries have just started to account for inflation and that a general lack of understanding exists as to the

usefulness of this information. Concludes that in time inflation accounting will become more important to financial statement users.

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Note: deductive descriptive.
Outline of the needs for accounting in a developing country. Provides an analysis of the status of accounting in Thailand and Tunisia and illustrates the extent to which the needs of accounting are being met in specific developing nations.
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Note: deductive descriptive.
Discussion of the influences that investing countries have had on the less developed countries.
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Note: deductive descriptive.
Discussion of the consolidation practices necessary when a firm is involved in a joint venture with an Eastern bloc country. Concludes with a discussion of the implications of U.S. tax laws on East–West trade.
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Note: deductive descriptive.
Discussion of the various factors necessary for the modernization of China.
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Note: deductive descriptive.
Discussion of the considerations involved in developing an accounting system for developing countries. Concludes that accounting systems should be developed on a subjective basis.
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Note: deductive descriptive.
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Note: deductive descriptive.
Analysis of current uniform accounting principles, with emphasis placed on existing problems and emerging needs.
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Note: deductive descriptive.
Study of problems associated with the increase in Poland's foreign trade, resulting from the development of the Polish economy and accounting system.
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Note: deductive descriptive.
Analysis of the development of the auditing profession in Poland and the role the PAA has played in this general development.
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Inflation on Accounting: A Global View (Champaign, IL: Center for International Education and Research in Accounting, (May 1979) 93–102.
Note: theoretical.
Theoretical description of the accounting practices in Socialist Poland.

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Note: deductive descriptive.
Discussion of the role of the university on the international level.
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Note deductive descriptive.
Presentation of the historical circumstances leading to the development of accounting in Ethiopia. Emphasizes the changes that are needed in institutions, laws, and customs so as to create a full-fledged accounting profession in that country.
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Note: deductive descriptive.
Summary of the development of the securities exchange in Thailand which contends that Thailand's goal is to force the growth of a capital market.
61. Kim Seung H. and Kuzdrall, Paul J., United States/United Kingdom/ Switzerland/Chile/Colombia/ Uruguay (Saint Louis University/University of Akron), "The Simulation of Financial Strategy under Fluctuating Exchange Rates Conditions [miscellaneous]." *International Journal of Accounting*, (March 1977, Vol. 12, No. 2), 93–107.
Note: modelling.
Discussion of the simulation models for accounting for exchange rate changes. Presents models both for developed countries and for less developed countries.
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Note: deductive descriptive.
Discussion of the simplification and overuse of terms in the accounting profession and the difficulties with defining and translating such terms.
63. Kwang, Ching-Wen, China/United Nations (California State College at Hayward), "The Economic Accounting System of State Enterprises in Mainland China [financial accounting and reporting]." *International Journal of Accounting*, (March 1966, Vol. 1, No. 2), 61–99.
Note: theoretical.
Study of the concept of "economic accounting" as it is used in mainland China and the implementation of the economic accounting system in various Chinese state enterprises.
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Note: deductive descriptive.
Discussion of the historical, governmental, social, and economic influences on the auditing profession in China.
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Note: deductive descriptive.
Study of the Korean Property Revaluation Law of 1965, suggesting areas for improvement.
66. Lefebvre, Chris J. L. and Lin, Liang-qi, China (Katholieke Universitiet Leuven, Belgium//Katholieke Universitiet Leuven, Belgium), "Internationalization of Financial Accounting Standards in the People's Republic of China [financial accounting and reporting]." *International Journal of Accounting*, (1990, Vol. 25, No. 3), 170–183.
Note: deductive descriptive.
Analysis of the regulations, capital structure, financial reporting, and methodologies responsible for the current accounting practices in China. Contends that Chinese financial statements may be translated accurately.

67. Markell, William, Israel (University of Delaware), "Accounting Education: Its Importance in Developing Countries. Israel: A Case Study [accounting education]." *International Journal of Accounting*, (March 1968, Vol. 3, No. 2), 125–133.
    Note: deductive descriptive.
    Case study of accounting education in Israel used to emphasize the importance of accounting to the economic health and growth of developing nations, the need for trained personnel in accounting, and the importance of managing such development in businesses.
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    Note: deductive descriptive.
    Description of the accounting profession in Botswana, centering on the accounting program at the University of Botswana.
69. McClure, Malcolm M., Soviet Union/Poland/Rumania/East Germany/Yugoslavia (Illinois State University), "An Overview of Rumanian Accounting [financial accounting and reporting]." *International Journal of Accounting* (September 1983, Vol. 19, No.1), 131–156.
    Note: deductive descriptive.
    Discussion of the structure and theory of Rumanian accounting. Provides a background of methods and statement requirements.
70. McMahon, Terrence J., Brazil/Developing Countries (United States Agency for International Development Mission, Brazil), "Brazil: A Maturing Capital Market Seeks Accelerated Improvements in Accountancy [economics and development]." *International Journal of Accounting*, (September 1972, Vol. 8, No. 1), 77–87.
    Note: deductive descriptive.
    Review of how the demand for the FUMCAP program evolved, with suggestions as to how this program can accomplish its purpose.
71. Meek, Gary, United States/Japan/Netherlands/Philippines/United Kingdom/Israel (Oklahoma State University) Interim Earnings Announcements in the United States by Non-U.S. Multinational Corporations: Responses by the U.S. Securities Market [financial accounting and reporting]." *International Journal of Accounting*, (March 1985, Vol 20, No. 2), 1–18.
    Note: capital markets.
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    Note: empirical statistical.
    Study of non U.S. multinational companies regarding their reporting practices. Concludes that a great many reporting deficiencies exist world wide.
73. Mensah-Mireku, Yaw, Ghana (University of Illinois at Urbana-Champaign), "Accounting Aspects of Economic Development in Ghana [economics and development]." *The Multinational Corporation: Accounting and Social Implications* (Champaign, IL: Center for International Education and Research in Accounting; January 1977, 127–138.
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Preparers' Attitudes to Financial Reporting in Less Developed Countries with Moderately Sophisticated Capital Markets: The Case of Jordan

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Key words: Financial reporting; Incentives for financial disclosure; Less developed countries; Preparers of financial statements; Users of financial statements

Abstract: *This article reports a study of the characteristics, attitudes, and beliefs of preparers of external financial reports in a less developed country with a moderately sophisticated capital market. Significant differences between earlier findings relating to developed countries and the current study are identified and the implications of these differences are explored.*

Studies of the attitudes and perceptions of preparers of corporate financial statements have hitherto focused largely on developed countries (see, for example, Chandra and Greenball, 1977; Firth, 1978) or multinational enterprises (see, for example, Gray and Roberts, 1989). There are, however, good *a priori* reasons to suppose that their conclusions may not apply with equal validity in other contexts (see, for example, Perera, 1989). This paper reports results obtained in a less developed country with a moderately sophisticated capital market.

Jordan is a small, fairly prosperous country with an open economy and a free capital market and a Parliamentary system of government. Industry is dominated by the service sector, with mining and manufacturing contributing only some 17 percent to GDP. The country's stock market (the Amman Financial Market) commenced operations in 1978 with quotations covering 57 companies; this number rose to 120 in 1988 but has since fallen slightly as a result of merger activity (see Civelek and El-Khouri, 1991).

Research Design

The research was conducted by means of a survey questionnaire, which was tested on a small number of participants.[1] Respondents were told that individual replies

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would remain confidential. Second and third mailings were made to those who did not reply within four weeks.

The questionnaire was distributed in 1991 to all the 112 companies listed on the Amman Financial Market. A total of 86 replies were received. Of these, two were eliminated because many questions had been left blank and one because the respondent gave the same answer to all questions. Usable responses thus amounted to 83, representing a response rate of 74 percent, a good rate for this type of study.

Cronbach's coefficient alpha test was employed to examine the reliability of the scale of measurement used in the questionnaire. The results covering target user groups and parties participating in accounting and disclosure decisions had alpha coefficients of 0.5412 and 0.5496 respectively and thus fell short of the cut-off level of 0.6 proposed by Sekaran (1984). All other results exceeded this level. In order to examine whether the results of the study might be affected by material non-response bias, the size of responding companies (in terms of total assets and of sales) was compared with that of non-responding companies using the Mann–Whitney test: the differences were not significant.

The questionnaire sought information of the personal characteristics of respondents. The large majority were finance directors or chief accountants (83 percent) and most (58 percent) had held their position for more than seven years. Three-quarters had had more than 12 years' experience in accounting and finance and 82 percent held accounting qualifications. In general respondents appeared to be in a good position to provide the information sought.

Target Audience for Financial Statements

Respondents were presented with a list of 12 groups of potential users of corporate annual reports and asked to rank them in order of importance, specifically identifying any groups they considered to be of no more importance at all. Table 1 shows the

Table 1. Target audiences for financial statements

		Most importance		No importance	
	Mean	No. of res.	%	No. of res.	%
1. Management and directors	1.96	61	73.5	0	–
2. Individual shareholders	2.76	16	19.3	2	2.4
3. Institutional shareholders	2.90	11	13.3	2	2.4
4. Tax authorities	4.87	5	6.0	4	4.8
5. Bankers and creditors	5.43	5	6.0	10	12.0
6. Government	7.67	6	7.2	21	25.3
7. Financial analysts	7.90	1	1.2	18	21.7
8. Customers	8.95	2	2.4	30	36.1
9. Employees and labor unions	9.65	1	1.2	28	33.7
10. Researchers and teachers	9.81	3	3.6	25	30.1
11. Suppliers	10.30	2	2.4	45	54.4
12. Press	10.51	1	1.2	37	44.6
Total		114		232	

1 = most important.
12 = least important.
13 = no importance at all.

main findings. By far the most important users were the directors and management of the company: of the 83 respondents, 73 percent considered these to be the most important target group. The other users given a high priority were individual and institutional shareholders (means of 2.76 and 2.90 respectively). Tax authorities and creditors were considered of only moderate importance and several groups were widely considered to be of no importance at all: the press, suppliers, employees, labor unions, researchers and teachers were considered to be of no importance by more than 30 percent of the respondents. The situation in Jordan appears to be similar to that found in developed countries by the studies cited earlier in that preparers' perceptions of the audience for whom financial reports are prepared focus on internal rather than external users.

Major Influences on Accounting Policy and Disclosure Decisions

In Jordan, as in many other countries, the directors of a company are legally responsible for preparing and publishing its annual report. In practice, of course, other parties may influence decisions as to accounting policies and formats and the level of disclosure. Respondents were asked to evaluate the extent of the influence of potential participants in the decision-making process. The results are presented in Table 2.

Not surprisingly, the company chairman, finance director, and chief accountant were found to be heavily involved in decision making. As in developed countries (see for example, Firth, 1979a), the external auditors were the most influential party external to the organization. Although the directors are legally responsible for preparing the annual report, they have only a moderate influence on its content, no doubt because most have little knowledge of accounting. Marketing and public relations departments have only a slight influence on reports. This suggests that companies in Jordan, unlike those in some developed countries (see for example, Meyer, 1979), do not use their annual report as a marketing vehicle.

Respondents were asked to indicate the importance of eight factors expected to influence financial reporting practices. As Table 3 shows, the regulatory dimension,

Table 2. Major participants in accounting policy and disclosure decisions

		Great extent		Not at all	
	Mean	No. of res.	%	No. of res.	%
1. Finance director	4.67	65	78.3	1	1.2
2. Chairman	4.39	54	65.1	2	2.4
3. External auditors	4.13	38	45.8	3	3.6
4. Chief accountant	4.07	35	42.2	4	4.8
5. Board of directors	3.69	30	36.1	8	9.6
6. Company accountants	3.07	11	13.3	12	14.5
7. Public relations department	2.27	6	7.2	35	42.2
8. Marketing department	2.22	1	1.2	32	38.6

1 = Not at all.
5 = To a great extent.

Table 3. Major factors influencing accounting policy and disclosure decisions

		Condiderable influence		No influence	
	Mean	No. of res.	%	No. of res.	%
1. Companies Act	4.43	57	68.7	3	3.6
2. Proposals by auditors	4.14	34	41.0	1	1.2
3. The Amman Financial Market requirements	3.70	28	33.7	7	8.4
4. Tax authorities	3.43	31	37.3	18	21.7
5. IASC	3.10	15	18.1	19	22.9
6. The need for equity or loan finance	2.83	11	13.3	21	25.3
7. Competitors in your industry or markets	2.78	5	6.0	20	24.1
8. Proposals by academics	1.92	2	2.4	42	50.6

1 = No influence.
5 = Considerable influence.

in the form of the Companies Act, tax authorities, and the Amman Financial Market requirements were found to have substantial influence. However, the legal, regulatory, and fiscal framework for financial reporting in Jordan is very limited in scope and is expressed in general terms. The Companies Law 1989 requires that companies prepare an annual report including a profit and loss account and balance sheet with comparative figures, a statement of changes in financial position,[2] and explanatory notes. The accounts must give an "honest and fair" view and be audited. There are no further requirements concerning the form and content of the financial statements beyond a requirement that companies should maintain proper accounting records in accordance with generally accepted accounting principles, which are not defined by law.

Jordanian tax laws requires that all deductions claimed for tax purposes should correspond to sums appearing in the financial statements. Since 1985 depreciation rates for tax purposes have been specified by law and only the straight-line method can be used. Other deductions must be calculated in accordance with generally accepted accounting principles, but these are not defined. The Amman Financial Market has so far issued no requirements relating to the content of company annual accounts.

Not surprisingly, given the results reported in the previous section, proposals by auditors were found to have considerable influence on financial reporting practices while the International Accounting Standards Committee (IASC) was the fifth most important influence on companies. The accounting profession in Jordan has only recently been formally established and has yet to issue local statements of accounting practice but has recommended adoption of International Accounting Standards effective January 1990, which may well explain the position of the IASC in the rankings. However, in the absence of any legal power or effective disciplinary mechanism, the adoption of its standards is likely to come slowly.

Perceived Benefits and Costs of Voluntary Disclosures

Preparers' perceptions of the benefits and costs of disclosing 25 specific information items were examined. The items were selected on the basis of evidence from earlier

studies (Firth, 1979a, 1979b, 1980; Singhvi and Desai, 1971; Buzby 1974; Firer and Meth, 1986; McNally et al., 1982; Wallace, 1988, 1989; Cooke, 1989a, 1989b, 1989c) that an item is regarded as important by users of corporate annual reports but is not widely disclosed voluntarily. Items not applicable to all companies in the current study (which included insurance companies and banks) and items disclosed compulsorily in Jordan were excluded from the list.

Respondents were asked to indicate the level of three categories of benefit associated with disclosure for each of the 25 items on a scale of 1 (minimum) to 5. The three categories were derived from possible benefits to the company identified from previous studies (see, for example, Chandra, 1975; Choi and Mueller, 1987) and were: (a) easier access to, and lower cost of, finance; (b) stability and improvement in share price; and (c) improved company image and reputation. Respondents were also asked to indicate the level of three categories of cost derived in the same way: (a) cost of preparing information; (b) competitive disadvantage; and (c) disadvantage in collective bargaining terms. The results are summarized in Table 4.

Easier access to and lower cost of capital have been identified by many studies as a major incentive for increased voluntary disclosure in developed countries (see for example, Choi, 1973, and the references cited earlier in this section). Yet in the present study this factor achieved scores ranging from 1.96 to 3.43, with only five items having an average score of more than 3 and with only two items of the 25 having this category of benefit ranked other than last. Two characteristics of the local economy are of relevance in considering the marked contrast between developed countries and the Jordanian case. Competition between companies for finance is less severe in Jordan than in many developed countries; indeed, the Jordanian government owns almost 50 percent of the shares of the largest listed companies and assists these companies by providing them with loans on favorable terms including relatively low interest rates. Second most listed companies are of recent origin and thus may not yet have fully appreciated the relationship between disclosure and cost of capital. These factors may partially explain why Jordanian companies consider that share price stability and improved company image and reputation are more significant benefits than reduced cost of capital; in both cases an average score of more than 3 was identified for 14 information items. Enhanced company image was also found to be the dominant consideration in encouraging disclosure by the British multinationals investigated by Gray and Roberts (1989).

As far as the costs of disclosure are concerned, the cost of preparation was the most significant although only seven items had a mean value of more than 3; none of the items had a score over 3 for competitive disadvantage or collective bargaining considerations. In developed countries, competitive disadvantage can assume greater significance than preparation costs (see, for example, Gray and Roberts, 1989) reflecting the substantially greater degree of competitive pressure in such countries. The lack of significance of collective bargaining considerations is unsurprising in view of the limited use of financial information in pay bargaining in Jordan and the lack of emphasis on performance related pay.

Table 4 also presents the net perceived cost or benefit of disclosing each item of information on the list on the admittedly heroic assumption that the scores under the six categories of cost and benefit are comprehensive and additive. For only two of

Table 4. Perceived benefits and costs of voluntary disclosures

Rank	Items	Benefits			Costs			Net
		Cost of capital	Share price	Image	Preparation costs	Competitive disadvantage	Collective bargaining	
1.	Breakdown of earnings by major product line, class of customer and geographical location	2.28	2.34	2.58	4.47	2.83	1.94	−2.04
2.	Breakdown of sales revenue by major product line, class of customer and geographical location	2.33	2.58	2.84	4.45	2.81	1.78	−1.29
3.	Budgeted capital expenditures for the following year	2.87	2.92	2.88	4.01	2.24	1.53	0.89
4.	Expenditure on human resources (eg., training and welfare facilities)	1.96	2.16	2.73	1.89	1.75	2.00	1.21
5.	Breakdown of expenses into fixed and variable components	2.19	2.25	2.25	1.87	2.14	1.45	1.23
6.	Analysis of sales revenue and earnings attributable to foreign operations	2.78	3.10	3.17	3.04	2.58	1.95	1.48
7.	Measure of physical level of output and capacity utilization	2.94	3.22	3.63	3.96	2.40	1.90	1.53
8.	Cash projections for the next one to five years	3.43	3.30	3.33	4.17	2.47	1.82	1.60
9.	Discussion of the competitive position of the company	2.58	2.88	2.87	2.84	2.36	1.41	1.72
10.	Rate of return required on projects	2.58	2.84	2.95	1.73	2.64	1.94	2.06
11.	Discussion of major factors likely to influence the following year's results	2.94	3.24	3.22	3.00	2.53	1.75	2.12
12.	Comparative balance sheets for the past five to ten years	2.75	2.93	3.10	2.64	1.96	1.51	2.67
13.	Description of major products/services supplied by the company	2.34	2.72	3.04	1.96	2.12	1.34	2.68
14.	Information about new product development	2.81	3.12	3.29	2.13	2.84	1.57	2.68
15.	Comparative profit and loss accounts for the past five to ten years	2.80	3.02	3.13	2.51	1.90	1.64	2.90
16.	Nature and amount/effect of all major accounting policy changes	2.19	2.60	2.60	1.47	1.67	1.33	2.92
17.	Share of market by major product area	2.90	3.74	3.40	2.93	2.47	1.63	3.01
18.	Forecast of following year's profits	3.18	3.64	3.70	2.89	2.33	2.20	3.10
19.	Discussion of results for the past year with reasons for changes	2.69	4.07	2.99	3.01	2.05	1.42	3.27
20.	Discussion of the impact of inflation on financial results	2.66	3.86	2.77	2.10	2.07	1.83	3.29
21.	Discussion of the future economic outlook of the company	3.07	3.39	3.45	2.13	2.52	1.83	3.43
22.	Information relating to post balance sheet events	2.71	3.27	3.37	1.75	2.34	1.77	3.49
23.	Statement of transactions in foreign currency	2.67	3.71	2.77	1.92	2.05	1.37	3.81
24.	Expected future growth in sales revenue	3.30	4.20	3.84	2.81	2.28	2.06	4.19
25.	Statement of source and application of funds	3.12	2.89	3.05	1.63	1.81	1.41	4.21

the 25 items on the list was cost perceived to exceed benefit. These were the breakdown of earnings by major product line, class of customer, and geographical location, and the breakdown of sales revenue by major *product line*, class of customer, and geographical location.

The relationship between perceptions of benefit and cost (as measured in this section) and actual disclosure practices by the companies concerned[3] was examined by means of the Spearman rank correlation coefficient. The relationship was not significant ($r = 0.1809$; $p = 0.193$), implying either that disclosure decisions are not taken principally on the basis of the perceptions of net benefit as reported in this study or that the model used to aggregate those perception is inadequate (or both). Although the method used to aggregate perceptions of benefits and costs is certainly simplistic, there are also reasons for supposing that companies may not in practice take disclosure decisions on the basis of respondents' perceptions of benefits and costs. It has been found that many users of corporate annual reports in Jordan appear to make only moderate use of information contained in reports,[4] and preparers may be reporting their perceptions of the benefits that would accrue if all or most users used the information provided fully. Further, companies' decisions of what to disclose are shown earlier in this paper to be influenced in part by parties other than those who responded to the questionnaire.

Company Size and Perceptions of Benefit and Cost

A significant positive relationship between extent of disclosure and company size has been found in a number of studies covering both developed (Firth, 1979a; McNally et al., 1982; Cooke, 1989a, 1989b, 1989c; Buzby, 1975) and less developed (Wallace, 1987; Chow and Wong-Boren, 1987) countries. It is generally suggested that large companies are more willing to disclose information because: (a) they have relatively lower costs of collecting, processing and publishing the information; (b) they are likely to be affected to a lesser extent than smaller companies by competitive disadvantage; and (c) they are more likely to recognize and receive benefits of disclosure, such as easier access to and lower cost of capital. This study tests the relationship between perceptions of the benefits and costs of disclosure and company size.

Company size was measure in terms of both total assets and turnover.[5] Scores for separate categories of benefit and cost were *not* aggregated for the purpose of this section; thus for each company six scores were computed. Each score represented the sum of the respondents' weights for all 25 items of information expressed as a percentage of the maximum score ($25 \times 5 = 125$). The Spearman correlation coefficient two-tailed test was used to analyze the data.

Table 5 shows the results using both measures of company size. There was no significant correlation between size and the perceived benefit of improved image and reputation, the factor found to be the most important perceived benefit from voluntary disclosure, so that this benefit is apparently felt equally by large and small companies. The perception of a benefit from stability of share price was moderately but significantly positively correlated with size while the relationship between the

Table 5. Spearman correlation matrix: relationship between perceived costs and benefits of voluntary disclosure and company size

	Total assets	Sales
Easier access to, and lower cost of, capital	−0.0072	0.0394
	$p = 0.4740$	$p = 0.3620$
Stability of share price	0.3998	0.3340
	$p = 0.0001$	$p = 0.0010$
Improved image and reputation	−0.0189	−0.0207
	$p = 0.433$	$p = 0.4260$
Cost of preparation	−0.7709	−0.6552
	$p = 0.0001$	$p = 0.0001$
Competitive disadvantage	−0.1780	−0.1861
	$p = 0.054$	$p = 0.0460$
Collective bargaining	−0.0616	−0.0509
	$p = 0.290$	$p = 0.3240$

perceived benefit of easier access to and lower cost of capital and size was not significant. In general, then, perceptions of benefit were not affected by size.

There was a high negative correlation between size and perceived preparation costs; thus the argument that large companies are likely to collect information needed for corporate report disclosure for their internal management purposes and this lowers the cost of including it in the annual report bears weight. A weak negative correlation (statistically significant at $p = 0.5$ in the case of turnover) between size and perceived competitive disadvantage was identified. No significant relationship was found between perceived cost in terms of the impact on collective bargaining and size; these results are consistent with the lack of overall significance for these factors.

Conclusions

Respondents to the survey reported here generally held senior positions within their company and were well qualified with substantial relevant experience. This suggests that their responses provide a reasonably reliable indication of preparers' attitudes and perceptions in Jordan. It appears that preparers in a less developed country share the perception identified more than a decade ago in developed countries that the primary user of published financial reports is management itself: further, they, as their counterparts in developed countries, regard the regulatory framework as a major influence on reporting practice. The contrast between developed and less developed countries is that external users will, in the main, have less influence in less developed countries (Singhvi, 1972) while the regulatory framework will itself be less developed; hence pressure for increased disclosure will be limited and proposals for reform derived from the external user-based models which are currently widely used in developed countries are likely to be unconvincing to those responsible for designing financial reports in less developed countries. Reform in such countries will require either an explicitly internal user-driven approach or a program to educate preparers as to the importance of external users.

In evaluating the benefits and costs of voluntary disclosure, preparers in Jordan attached less importance to improved access to capital than those in developed countries. This effect may in part be transitional (young companies have yet to understand the link between disclosure and better access to capital) and in part reflect the specific structure of the Jordanian capital market. It may, in turn, reinforce the low priority given to external users, although Jordanian preparers do, apparently, regard stable share prices as a valuable benefit from voluntary disclosure. Perceptions of costs of disclosures also differed from those in developed countries, it would appear also for reasons connected with institutional structure. The importance of institutional factors and the state of development in corporate understanding of capital markets in determining attitudes to disclosure re-emphasizes the need to consider local circumstances in a less developed country in designing programs for reform.

Finally, the study examined the relationship between perceptions of benefits and costs of disclosure and company size. The significant positive relationship between extent of disclosure and size found in earlier studies of both developed and less developed countries can be explained, at least in the case of Jordan, in terms of differential perceptions of benefit and cost and chiefly of the cost of preparing the information.

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Notes

1. A copy of the questionnaire is available from the first-named author.
2. The requirement to publish a statement of changes in financial position is implicit in the stipulations applying to audit.
3. A discussion paper reporting these disclosure practices in greater detail is available from the second-named author.
4. A discussion paper is available from the second-named author.
5. The study includes banks and insurance companies, and for these companies total revenues were used instead of sales.

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Some Thoughts on the Development of Geographic Segment Reporting in the United States

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Key words: Financial accounting; Geographic segment reporting; Financial reporting; Foreign operations; Geographic disclosures; Globalization

Abstract: *Geographic segment reporting standards in the United States were formally established by the Financial Accounting Standards Board (FASB), in December 1976, effective for the reporting years beginning with 1977. This study provides evidence suggesting the need for a revision of geographic reporting standards, highlighting events leading to the development of present standards, reviewing research results that have generally supported geographic disclosures, and examining financial statements of a sample of the US-based corporations subject to required geographic disclosures. It is concluded that additional future efforts seem indispensable in order to improve the quality of these disclosures.*

The internationalization and globalization of business activities are demonstrating increasing growth in recent years, exceeding those of aggregate US domestic operations (Pinches, 1990). Today hundreds of US based corporations are actively engaged in international business and many are eagerly seeking to expand. In the meantime, with the recent political changes in Eastern Europe, one can expect international business to continue to grow to unprecedented proportions. These expectations are further supported by such recent developments as the enactment of the international treaties, NAFTA and GATT, removing many of the member countries' trade barriers and stimulating business across national boundaries (Wall Street Journal, 1993).

International business operations are complicated by the social, economical, political, and cultural differences of the host countries. Factors, such as different exchange rates, tax laws, transfer pricing strategies, host-country government programs, and complex accounting methods for foreign operations, are among those that do not directly affect purely domestic firms.[1]

In addition to these environmental differences, foreign operations are subject to political and economic forces which from time to time result in the closure of operating

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facilities or perhaps the expropriation of the firm's investment. Because of these and other factors, the evaluation of the financial performance of multinational corporations involves the assessment of additional risks uniquely inherent to international business.

To assist stockholders and creditors of multinational corporations in making investment and credit decisions, the US accounting standard-setting bodies, nearly two decades ago, began deliberations on the need to develop certain disclosure rules concerning enterprises operations in foreign countries. These rules, later known as "Financial Reporting for Segments of a Business Enterprise," called for the disclosure of financial information by geographic segments of operations. Outlining these requirements, the Financial Accounting Standards Board (FASB), stated:

> When an enterprise issues a complete set of financial statements that present financial position at the end of the enterprise's fiscal year and results of operations and changes in financial position for that fiscal year in conformity with generally accepted accounting principles, those financial statements should include certain information relating to:
> (a) The enterprise's operations in different industries.
> (b) Its *foreign operations* and export sales.
> (c) Its major customers. (FASB, Statement No. 14, 1976, p. 1, emphasis added)

In justification of its position, the Board further explained:

> The purpose of the information required to be reported by this statement is to assist financial statement users in analyzing and understanding the enterprise's financial statements by permitting better assessment of the enterprise's past performance and future prospects. (FASB, Statement No. 14, 1976, p. 2)

This stated purpose was formulated after a series of events including at least two earlier research studies in support of these additional disclosures. This paper intends to provide some additional evidence suggesting the need for a revision of geographic segment reporting standards. Toward this purpose, the activities and events leading to the development of the present geographic reporting standards are highlighted first. The next section gives a brief review of research results which have generally supported geographic disclosures. These sections provide a basis of evidence on the usefulness of disaggregated segment information. Against this background, the study continues by examining the financial statements of a sample of the US-based corporations subject to required geographic disclosures to evaluate the extent of disclosures presently furnished in the set of general-purpose financial statements. Significant differences found in the application of segment reporting standards among the firms are cited to highlight the areas of inconsistencies in financial disclosure. Finally, a summary and conclusion are provided.

Background

Public statement suggesting the development of segment reporting standards in general, and geographic segment reporting in particular, dates as far back as 1966. In that year, in a historic speech at the annual meeting of the Financial Analysts Federation, Manuel F. Cohen, Chairman of the Securities and Exchange Commission (SEC), stated that the next objective of corporate reporting should be to disclose a disaggregated profit statement on a divisional basis (Cohen, 1966). That speech

heralded the beginning of a decade which ended with the establishment of segment reporting standards.

Later in the same year, two different organizational sponsors commissioned separate research projects to investigate whether the users of financial statements required segment information. The first study, sponsored by the National Association of Accountants, used the interview method to determine which financial information is useful for investment and credit decisions (Backer and McFarland, 1968). The research subjects included financial analysts, commercial bankers, and corporate executives. The results indicated that financial analysts generally favor disclosures based on geographic segment. The second study, sponsored by the Financial Executives Research Foundation, used a questionnaire to discern which financial information investors required from diversified companies (Mautz, 1968). This research, however, did not support geographic disaggregation beyond what was already recommended by the Committee on Accounting Procedures.[2]

In September 1968, on the basis of the above research findings and other considerations, the SEC announced proposals to amend Forms S-1, S-7, and 10-K to provide greater disclosure of contributions to sales and earnings figures by divisions of business enterprises. In support of the new proposals, Senator Gaylord Nelson, in his letter to the Chairman of the SEC, said:

> Generally, in my judgment, the direction of our public policy should be toward an even more open society, with the widest possible availability and dispersion of scientific, industrial and economic information (*Cong. Rec.*, 1969, p. 20105)

Later he called the SEC's proposed amendments "an important step toward bridging an 'information gap' that has long troubled the investment community" (*Cong. Rec.*, 1969, p. 20103).

According to the SEC proposals, the registrant corporations would be asked to report (in an itemized form) the amount of sales, earnings, and assets employed in foreign subsidiaries.

> Where ten percent or more of total sales and revenues or net income are derived from operations outside the United States and Canada or from Government procurement or any single customer, operating and financial information with respect to each such source shall be set forth and for any categories of products or services within each source which contributed ten percent of the total company sales and revenues or net income as stated above. (*Cong. Rec.*, 1969, p. 20106)

A supporter of the SEC's proposed disclosures, J.B. Terrell Couch, General Counsel for Marathon Oil Company, commented that "the effect of the proposed amendments is to force financial reporting beyond the pale of accepted accounting principles" (*Cong. Rec.*, 1969, p. 20110). However, because of concerns raised about the competitive position of the firm if foreign operating results were disclosed, the SEC, in its revision of the proposed rules – while not entirely eliminating geographic disclosures required by the original draft – substantially reduced the extent of such disclosures. In fact, the new amendments nearly replicated recommendations made by the Committee on Accounting Procedures in Chapter 12 of Accounting Research Bulletin No. 43 by stating:

> If the registrant and its subsidiaries engage in material operations outside the United States, or if a material portion of sales or revenue is derived from customers outside the United States, appropriate disclosure shall be made with respect to the importance of that part of the business to the registrant and

the risks attendant thereto. In so far as practicable, furnish information with respect to volume and relative profitability of such business. (*Cong. Rec*, 1969, p. 20110)

Although the APB had categorically supported segment reporting on a voluntary basis, no further action was taken by the APB or the SEC concerning geographic segment disclosures until the year 1973, at which time the FASB placed this issue on its technical agenda (AICPA, 1977).[3] However, it took several years until the Statement of Financial Accounting Standards No. 14, "Financial Reporting for Segments of a Business Enterprise," was finally issued in December 1976, effective for fiscal years beginning after December 15, 1976. Pursuant to the FASB's action, in December 1977, the SEC officially adopted Regulation S-K, which placed the SEC's line-of-business more in line with the FASB's Standards.

Later, on September 2, 1980, the SEC proposed additional regulations requiring a change in the content of management discussion and analysis to be included in the annual report to shareholders and in the 10-K report filed with the SEC (SEC, 1980). The change in the management discussion and analysis section was recommended to encourage discussion of specific features of the firm – liquidity, capital resources, results of operations, industry and geographic segments, management forecast, and effects of inflation. As a result of comments and suggestions received from interested individuals and organizations, the SEC furthermore proposed that interim financial reports prepared in registration statements and Form 10-Q should disclose the same geographic segment data as reported in the annual financial statements (SEC, 1984). However, because of the negative reactions from the business community, no final decision was made on these proposals.

Empirical Research on Geographic Reporting

Although the accounting literature contains a considerable body of research concerning line-of-business segment reporting (Kinney, 1971; Kochanek, 1974; Collins, 1976; Horwitz and Kolodny, 1977; Baldwin, 1984), only a few published research studies have employed empirical financial data to address the usefulness of geographic segment disclosures (Prodhan and Harris, 1989; Balakrishnan et al., 1990; Ahadiat, 1993).

Prodhan and Harris (1989) used a test of systematic risk to investigate the information content of geographic data, contending that:

Since the risk-return opportunities can vary in different countries, and the international corporations may also vary in their abilities to organize the firm's resources to take advantage of them, it is suggested that disclosure of geographical segment sales and profit data may alter the firm's systematic risk profile. (Prodhan and Harris, 1989, p. 471)

The study examined the Standard and Poor's 500 Composite Stock Price Index and identified a total of 82 firms. The sample firms were partitioned into a control group of 42, including companies that had disclosed geographic data from 1969 through 1983, and a treatment group of 40, representing companies that had disclosed such data since 1977. Monthly stock prices were collected from the Compustat files and regressed against a proxy to identify systematic risk. The results indicated that the betas computed for the pre- and post-disclosure periods remained substantially the

same for the control group, but not for the treatment group. Thus, the authors concluded, geographic segment disclosures contain information which affects the firm's systematic market risk (Prodhan and Harris, 1989).

In another study, Balakrishnan et al., (1990) used random walk and growth-adjusted models to test the predictive ability of geographic disclosures. The accuracy of geographic data was tested by using both geographic and consolidated sales and income data for the period 1979–1983. The sample included 89 of the US-based multinational firms selected from the Value Line database. Although the study contained several limitations resulting primarily from the degree of disaggregation of the data and the sample selection process, the authors concluded that geographic segment earnings provide greater forecast accuracy when compared to consolidated corporate earnings (Balakrishnan et al., 1990).

The third empirical study used the Box–Jenkins time-series method to evaluate the predictive ability of geographic disclosures (Ahadiat, 1993). A sample of 33 of the US industrial companies that had voluntarily disclosed geographic data since 1969 was used for this study. Time-series models were estimated for both consolidated and segmented data. The results demonstrated (while certain limitations concerning the data persisted) that, regardless of the number of segments, the forecasts based on geographic earnings are significantly more accurate than consolidated-based forecasts (Ahadiat, 1993).

The evidence provided by the above research reinforces the conclusions of earlier research – that geographic reporting data are indeed useful for investment and credit decisions. However, the quality of these disclosures is subject to some criticism because of the extent of flexibility afforded by the FASB's reporting requirements, e.g., the great latitude permitted in classification of foreign operations into geographic areas (Bavishi and Wyman, 1980). Against this background the following study evolved.

The Present Study

In an attempt to collect first-hand information concerning the present status of geographic segment disclosures and any inconsistencies in reporting among the US corporations, this study examined the financial statements of the Fortune 500 largest industrial companies to determine: (1) how multinational corporations report geographic information, more than one and half decades after these requirements were enacted; (2) if any significant reporting changes have occurred over the years; and (3) whether the FASB requirements are being applied consistently by all reporting corporations. To perform these analyses, particular attention was directed to:

(a) The number of geographic segments disclosed.
(b) Whether the information was reported on the face of or in the notes to the financial statements.
(c) If the company reported any additional information beyond the minimum requirements.
(d) Whether the company reported more or less segments than previously reported.

(e) If the company reported geographic information in one year and did not report in another year, or vice versa.

The years 1976–1992 were used to perform the above analysis.

A preliminary investigation was conducted to determine (1) whether public financial data were available on each company for the entire period of 1976–1992, and (2) if the financial statements contained information on foreign operations. The above analyses identified a sample of only 175 of the Fortune 500 US industrial corporations that had reported financial information related to their foreign operations in 1992. Table 1 contains an analysis of these companies by their general categories. As indicated, only 35 percent of the large industrial companies had reported geographic operations in 1992 and were thus appropriate for further analyses.

Rather than examining the financial statements of each and every firm in the sample over the entire period under investigation, only the results of the analysis of geographic disclosures at several observation points – the years 1976, 1977, 1983, 1988, and 1992 – are provided.[4]

The Results

Foreign operations are disaggregated by organizing the financial results of subsidiaries located in various countries of the world into one or more reporting segments. Such practice was followed by more than 22 percent of the US 500 largest industrial companies in 1976, on a voluntary basis. A year later, pursuant to the effective date of the new FASB standards, the number of reporting entities increased by 30 percent, when 145 corporations reported geographic information in their annual reports. Similar comparative analysis revealed that the number of reporting firms showed an increase until 1983, when it reached 174. However, since then this number has changed only negligibly, to the present level of 175.

As more companies began to report geographic segments, many formed segments with operations in diverse geographic locations around the globe. For example, some combined the results of their operations in Europe, the Middle East, and Africa as one geographic segment. Perhaps aggregation along the line-of-business has been an overriding consideration in forming such discordant segments. However, the management's apparent tendency to report as few segments as possible to meet the FASB's minimum requirements is evident. The investigation of financial statements revealed that, while in 1977, 33 more companies began to report geographic

Table 1. United States 500 largest industrial companies by category

Category	No.	Percentage
Report geographic data	175	35.0
Do not report geographic data	189	37.8
Formed since 1976	49	9.8
Financial information unavailable (e.g., privately owned)	87	17.4
	500	100.0

information compared to its previous year, nearly 72 percent of these companies chose to use only one or two foreign segments. Additional analysis indicated that the tendency to use fewer segments has seemingly remained to be a prevailing consideration over time. For example, despite the fact that the number of multinational corporations reporting geographic information stayed the same between 1983 and 1992, aggregation of diverse geographic data into one or two segments continued (See Table 2). The average number of segments that once had increased from 1.89 in 1976 to 2.33 in 1983, peaking at 2.33 segments per company, started to show a modest decline over the past several years to 2.19 in 1992).

In addition, flexibility, permitted in application of FASB's disclosure requirements, has resulted in financial reporting inconsistencies, not only over time but across the industry. Table 3 contains a summary of the cases that have resulted in some reporting inconsistencies along with the number of observations in each period. Although the frequency of occurrences for some cases reported for certain periods may seem insignificant at a macroeconomic level, the fact that such incidences are observed has significant microeconomic consequences.

The cases reported in this study have been organized below by their purported sources to facilitate analysis of the results and to focus the reader's attention on the party or parties who with their actions are in a position to limit or perhaps to eliminate these inconsistencies.

1. Discretionary Actions Permitted by the FASB in Applying Segment Disclosure Standards

These actions include the decision whether to report or not to report geographic information depending on the results of the application of the materiality tests outlined by the FASB.[5] A direct result of this flexibility has been the inconsistencies observed in the number of segments reported over time. For example, the analysis indicated that 20 of the reporting firms disclosed more segments in 1992 compared to the previous period, while 26 reported fewer segments. In addition, in the same year

Table 2. Companies reporting geographic data by no. of segments and year

No. of segments	Firms by year									
	1976		1977		1983		1988		1992	
	No.	%	No.	%	No.	%	No.	%	No.	%
One	64	57.1	63	43.4	58	33.3	63	36.0	56	32.0
Two	19	17.0	41	28.3	51	29.3	46	26.3	62	35.4
Three	16	14.3	22	15.2	32	18.4	37	21.1	35	20.0
Four	8	7.1	13	9.0	21	12.0	18	10.3	15	8.6
Five	2	1.8	4	2.7	9	5.2	10	5.7	5	2.8
Six	2	1.8	1	0.7	1	0.6	–	–	1	0.6
Seven	–	–	–	–	1	0.6	1	0.6	1	0.6
Eight	1	0.9	1	0.7	1	0.6	–	–	–	–
Total Firms	112	100%	145	100%	174	100%	175	100%	175	100%
Average no. of reported segments	1.89		2.05		2.33		2.27		2.19	

Table 3. Inconsistent actions in geographic segment reporting by year

	No. of firms by year			
Actions	1977	1983	1988	1992
Started reporting	35	29	4	8
Stopped reporting	2	0	3	8
Reported more segments	16	33	9	20
Reported fewer segments	5	7	10	26
Reported in notes	112	137	140	133
Reported on face	31	37	35	42
Reported voluntary information	28	38	35	34
Increased voluntary information	10	15	2	6
Decreased voluntary information	4	6	6	12

eight new firms included geographic disclosures in their annual reports, while the same number of firms stopped providing such disclosures. Another discretionary action involves the decision to disclose such information on the face of or in the notes to the financial statements. Twenty-four percent of the sample companies disclosed geographic data on the face of the statements in 1992, while the remaining 76 percent used the notes.

2. Voluntary Actions in Relation to the Application of Geographic Reporting Requirements

These actions involve management's decisions concerning the disclosure of additional information beyond the minimum requirements. Inconsistencies arise in one or two ways: either in a comparative analysis among the firms because not all companies report such additional information, or an analysis of trends over the years as firms choose to change their reporting practices. A review of corporate actions leading to these inconsistencies revealed that, among the companies reporting geographic information in 1992, over 19 percent disclosed some additional information beyond the minimum requirements. Furthermore, 18 companies were found that increased or decreased the number of disclosed items compared with their previously reported information. Implications of these anomalies are examined in the following section.

Summary and Conclusions

Preparation for the development of segment reporting standards began when Manuel F. Cohen, Chairman of the SEC, delivered his historical speech at the annual meeting of the Financial Analysts Federation in 1966. It took nearly 10 years from that date until the US standard-setting body, FASB, acknowledged the need for such disclosures by issuing its Statement No. 14, Financial Reporting for Segments of a Business Enterprise. However, no further actions have been taken since to improve the quality

of geographic segment requirements. This study addresses reporting issues which demand a re-examination of these requirements.

While the segment disclosures were established as a result of significant historical developments, additional future efforts seem indispensible in order to improve the quality of geographic disclosures. In a review of the actual application of geographic reporting requirements, a number of inconsistencies were observed. First, with the choice of defining geographic segments left to management, corporate executives are placed in a position to decide what degree of disaggregation is appropriate for investors' and creditors' needs. Such excessive amount of liberty permitted by the FASB standards has only resulted in limiting the quality of disclosures through the following actions:

(1) Management's tendency to combine foreign operations situated in diverse areas of the world.
(2) Reporting sub-disaggregated segment information by forming as few segments as possible.
(3) Creating inconsistency in financial reporting of a firm over time.
(4) Creating inconsistency in financial reporting among multinational corporations operating in the same industry.

Second, the FASB's geographic segment materiality test has also created inconsistency in reporting geographic data. With the changing operating conditions from year to year, merely the application of this test has resulted in multinational corporations increasing or decreasing the number of their reporting segments.

The above circumstances not only make it difficult for investors and creditors of a company to assess the risks and returns of operations in foreign countries, they also hinder comparability of financial statements. As geographic segment disclosures continue to be important for investment and credit decisions (Prodhan and Harris, 1989; Balakrishnan et al., 1990; Ahadiat, 1993) standard-setting bodies must make earnest efforts to improve the quality of these disclosures by addressing the issues raised in this and similar studies. In addition, with increased activities toward globalization of business, future efforts toward refinement of geographic reporting standards should consider the possibilities of harmonization of international accounting standards.

Notes

1. Firms, even those operating solely in a domestic market, are not isolated from international activities. Whether competing for the market share or capital for various financing purposes, all businesses must be aware of the impact of international forces on their business. Failure to do so exposes the firm to uncalculated risk and potential bankruptcy.
2. Chapter 12 of Accounting Research Bulletin No. 43, issued by the Committee on Accounting Procedures, recommends certain disclosures concerning the firm's foreign operations.
3. The Accounting Principles Board in 1967 issued its statement No. 2 entitled "Disclosure of Supplemental Financial Information by Diversified Companies." This statement was later superseded by the Financial Accounting Standard Board's Statement No. 14.
4. Although the first two years (1976 and 1977) were selected to provide a basis for a pre- and post-comparative investigation, no particular rationale is intended for the inclusion of the other three periods.

For example, this research does not consider the possible effects of other FASB requirements, such as Statements No. 52 and 94; to do so would be clearly beyond the scope of this study.

5. According to FASB Statement No. 14, if a firm operates in two or more geographic areas, the information specified in the statement shall be presented for each significant geographic area if its *revenue from sales to unaffiliated customers* or its *identifiable assets* are *ten percent* or more of consolidated amounts (emphasis added).

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Taiwan and International Accounting Standards: A Comparison

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Abstract: *This study examines the recent development of accounting standards in Taiwan to determine their conformity to International Accounting Standards. The results of the comparison indicate that Taiwanese Generally Accepted Accounting Principles are increasingly in conformity with International Accounting Standards. The results suggest that Taiwan considers International Accounting Standards in the development of its accounting standards and that International Accounting Standards are applicable to the formation of accounting standards in an economically developing country.*

Accounting practice in Taiwan has historically been unregulated. In 1982, however, Generally Accepted Accounting Principles were formalized by the publication of *The Official Bulletins of Financial Accounting Standards* (SFAS);[1] Since 1982, 20 accounting principles have been published. Presumably, Taiwanese accounting standards could be developed according to any criteria, from independent development to the adoption of other pre-existing standards. One objective of this paper is to provide evidence of the influence of International Accounting Standards (IAS) on the development of Taiwanese accounting standards.[2] An observation that Taiwanese accounting standards comply with IAS will provide indirect evidence of the applicability of IAS and can provide guidance to the IAS Committee for developing useful international standards.

The Taiwanese economy is largely export driven and many of its companies trade internationally. Because of their involvement in international markets, Taiwanese companies may benefit from internationally recognized and accepted accounting standards. For example, a Taiwanese accounting system compatible with international business activities might provide financial statements that reduce the risks associated with cross-cultural differences in financial accounting standards. Taiwanese companies could then improve the terms with their foreign suppliers or with their customers. Similarly, providing understandable financial information to international traders

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could decrease the cost of capital for those companies participating in international capital markets as well as encourage more foreign investors to participate in the Taiwanese securities market. On the surface, at least, IAS appear to be a logical guide for the development of Taiwanese Generally Accepted Accounting Principles (GAAP).

The comparison presented in this paper is accomplished by reviewing Taiwanese and international accounting principles. The results of the review indicate that Taiwanese GAAP substantially conform to IAS. In addition, the conformity of Taiwanese GAAP to IAS has increased since 1988. Four Taiwanese GAAP issued between 1988 and 1993 use IAS as their basis and another four conform in all material respects with IAS, although national requirements were developed separately. Development of accounting principles in Taiwan, therefore, appears to be moving toward internationalization.

The next section provides some background by describing the financial reporting climate in Taiwan.

Financial Reporting in Taiwan

Taiwan's historically unregulated accounting environment seems incompatible with its current dynamic market-based economy. The relatively recent enactment of formal accounting standards can be partially explained by the predominance of closely held businesses, the conservative nature of business owners, and the speculative nature of Taiwanese capital markets. Closely held businesses are reluctant to publish external financial reports either because they do not require external financing or because financing requirements are met by other closely held family businesses. The conservatism of Taiwanese business owners also contributes to a reluctance to release detailed financial statements.[3] In addition, Taiwanese capital markets historically have been loosely regulated. The lack of regulation has resulted in speculative trading based on factors unrelated to company fundamentals.[4] These factors have all contributed to a general lack of supply and demand for financial reporting.

The rapid growth and internationalization of the Taiwanese economy, however, is boosting demand for reliable financial statements. Taiwanese companies are increasingly relying on off-shore sources of capital and are developing ties with international trading partners. Also, the Taiwanese securities market has recently experienced rapid growth, in part because of a greater interest by international investors.[5] The rapid expansion of Taiwanese companies into international markets and the expansion of the Taiwanese security market is contributing to a greater demand for financial accounting regulation and thus an increase in accounting standards.

Taiwanese GAAP and IAS

Taiwanese accounting standards are released by the Accounting Research and Development Foundation of Taiwan and edited by the Financial Accounting Standards

Committee (FASC). In addition to the standards edited by the FASC, the Taiwan Securities and Exchange Commission (CSEC) published in May of 1991 *The Reporting Rules for Security Issuers in the Republic of China* (RRSI). The RRSI apply to any corporation, publicly traded or not, which has a minimum amount of shareholders' equity.[6] Although based on Taiwanese GAAP, the RRSI require some additional disclosures. The larger Taiwan companies, therefore, publish financial statements according to Taiwanese GAAP but file more detailed financial statements with the CSEC. Because the CSEC reports are available to the general public through the CSEC library, our analysis also considers the additional disclosures required by the RRSI. IAS are released by the International Accounting Standards Committee (IASC).

A list of Taiwanese Statements of Financial Accounting Standards and comparable IAS is presented in Table 1. Seventeen standards are analyzed for compatibility with IAS. Standards 12, 13, and 16, concerning income tax credits, troubled debt restructuring, and financial forecasting, have no comparable IAS and are therefore not represented in the comparison.

Table 2 summarizes the results of the comparison of IAS and Taiwanese GAAP. Appendix A presents the standard-by-standard comparisons in more detail. Table 2 separates the 31 IAS into four categories or panels: (A) those with no counterpart to Taiwanese GAAP, and (B) those that either do not differ, (C) differ in their disclosure requirements, or (D) differ in their valuation requirements. The eight IAS that have no corresponding Taiwanese GAAP, listed in panel A of Table 2, relate to depreciation, income tax, changing prices, government grants, business combinations, hyper-inflationary economies, and bank and joint venture accounting. One Taiwanese standard, *Accounting Changes and Prior Period Adjustments*, is substantially identical

Table 1. Taiwan statements of financial accounting standards

No.	Title	Date issued
1	Summary of GAAP	10/18/84
2	Accounting for leases	10/18/84
3	Accounting for capitilization of interest	3/21/85
4	The statement of changes in financial position (superseded by SFAS No. 17)	5/09/85
5	Accounting for long-term investments in equity securities	6//15/85
6	Disclosure of related party transactions	6/15/85
7	Consolidated financial statements	12//31/85
8	Accounting changes and prior period adjustments	6/30//86
9	Contingencies and subsequent events	9/15/86
10	Valuation and presentation of inventory	5/20/87
11	Accounting for long-term construction contracts	7/20/87
12	Accounting for income tax credits[a]	12/28/87
13	Accounting for debtors and creditors in troubled debt restructurings[a]	6/01/88
14	Accounting for foreign currency translation	12/10/88
15	Disclosure of accounting policies	5/01/89
16	Financial forecasting[a]	12/28/89
17	Statement of cash flows	12/19/91
19	Accounting for organization costs[a]	6/11/92
20	Disclosure of financial information by segment	6/25/92

[a] Not comparable to International Accounting Standards.

Table 2. Major differences between International Accounting Standards and Taiwanese GAAP

International Accounting Standards (IAS)		Statement of Financial Accounting Standards (SFAS)		Major differences
Panel A: *No corresponding Taiwanese GAAP*				
4	Depreciation accounting	No corresponding Taiwanese GAAP		
12	Accounting for taxes on income	No corresponding Taiwanese GAAP		
15	Information reflecting the effects of changing prices	No corresponding Taiwanese GAAP		
20	Accounting for government grants and disclosure of government assistance	No corresponding Taiwanese GAAP		
22	Accounting for business combinations	No corresponding Taiwanese GAAP		IAS 22: Either the purchase or the pooling of interest method is allowed Taiwan: Pooling of interest method is not used
29	Financial reporting in hyperinflationary economies	No corresponding Taiwanese GAAP		
30	Disclosures in the financial statements of banks and similar financial institutions	No corresponding Taiwanese GAAP		
30	Financial reporting of interests in joint ventures	No corresponding Taiwanese GAAP		
Panel B: *No significant differences*				
8	Unusual and prior period items and changes in accounting policies	8	Accounting changes and prior period adjustments	No significant difference
16	Accounting for property plant and equipment	1[a]	Summary of GAAP	No major difference except in terms IAS 16: "Revaluation surplus" is used for revaluation of assets SFAS 1: "Asset Increment Reserve" or "Capital Reserve" is used for the revaluation of assets
Panel C: *Disclosures differences*				
1	Disclosure of accounting policies	15	Disclosure of accounting policy	IAS 1: Disclosure of "Reserve accounting, statutory or otherwise, including direct charges and credits to surplus accounts" SFAS 15: Disclosure of "Instalment sales"

continued...

Table 2. Continued

International Accounting Standards (IAS)		Statement of Financial Accounting Standards (SFAS)		Major differences
5	Information to be disclosed in financial statements	1[a]	Summary of GAAP	IAS 5: Requires specific disclosures in the balance sheet and income statement. SFAS 1: Only broad disclosures required
9	Accounting for research development activities		Reporting rules for security Issuers (RRSI)	IAS 9: Disclosure of R & D costs when either capitalized or expensed RRSI: Disclosure of R & D expenses only when they come from outside
10	Contingencies and events occurring after the balance sheet date	9	Contingencies and events occurring after the balance sheet date	IAS 10: Requires disclosure of dividends declared after the balance sheet data
13	Presentation of current assets and current liabilities	1[a]	Summary of GAAP	IAS 13: Identifies limitations of the current-non-current distinction
14	Reporting financial information by segment	20	Disclosure of financial information by segment	IAS 14: Less technical requirements in reporting and disclosing SFAS 20: The value of a segment is a consideration; number of industry segments reported should be no more than 10; disclosure of significant customers required
18	Revenue recognition	1[a]	Summary of GAAP	SFAS 1: Exceptions allowed for revenue recognition when crucial events have not occurred
24	Related party disclosure	6	Disclosure of related party transactions	IAS 24: Disclose related party transaction information when control exists SFAS 6: Disclose related party transaction information only when transactions occur. Related parties include corporations receiving more than one-third of their funds from the reporting firm; specifically defines "close members of the families of key management personnel" as spouse and common relatives of key management personnel
25	Accounting for investments	1 5	Summary of GAAP Accounting for long-term investments in equity securities	Different definitions for current investments: IAS 25: An investment readily realizable and intended to be held for less than one year SFAS 5: Holding period is not a consideration
26	Accounting and reporting by retirement benefit plans	18	Accounting for pensions	SFAS 18: Less emphasis on reporting of actuarial valuation than in IAS 26
27	Consolidated financial statements and accounting for investments in subsidiaries	7	Consolidated financial statements	IAS 27: A wholly owned parent is not required to consolidate its own subsidiaries SFAS 7: A subsidiary may be excluded from consolidation if (1) its stockholders equity is negative or (2) its total assets or total revenues are less than 10% of that of the parent

continued...

Table 2. Continued

International Accounting Standards (IAS)		Statement of Financial Accounting Standards (SFAS)		Major differences
28	Accounting for investments in associates	5	Accounting for long-term investments in equity securities	IAS 28: Provides accounting treatments when the investor and the associate use different reporting dates and accounting policies, and when the investor's share of losses of an associate is less than the carrying amount of the investment SFAS 5: Investor should transfer the amount of an associate's disposed fixed assets from its retained earnings to its capital surplus in the years after recognizing its after-tax benefit
Panel D: *Valuation differences*				
2	Valuation and presentation of inventories in the context of the historical cost system	10	Valuation and presentation of inventory	IAS 2: Uses net realizable value as the market price for valuation of inventories SFAS 10: Allows either net realizable value or replacement cost as the market price for valuation of inventories.
7	Statement of changes in financial position	17	Statement of cash flows	SFAS 17: Translate foreign currency transactions using the temporal method
11	Accounting for construction contracts	11	Accounting for long-term construction contracts	IAS 11: Contracts having similar criteria should use the same accounting method; expected warranty costs should be included if they can be reasonably estimated
17	Accounting for leases	2	Accounting for leases	IAS 17: Uses "finance lease" instead of "capital lease"; has less specific requirements for finance leases than that of SFAS 2 in the 75% useful life and 90% fair value rules; uses the interest rate implicit in the lease or the lessee's incremental borrowing rate as the discount rate to calculate the present value of minimum lease payments SFAS 2: Uses the lower of the highest non-money market interest rate or the lessor's implicit interest rate as the discount rate
18	Revenue recognition	1[a]	Summary of GAAP	SFAS 1: Exceptions allowed for revenue recognition when crucial events have not occurred
21	Accounting for the effects of changes in foreign exchange rates	14	Accounting for foreign currency translation	IAS 21: Severe currency devaluations in the acquisition of assets should be adjusted to cost; long-term translation gains and losses may be deferred SFAS 14 Long-term translation gains and losses are included in income
23	Capitilization of borrowing	3	Accounting for capitilization of interest costs	IAS 23: Does not require on capitalization of borrowing costs SFS 3: Provides special features for (1) capitalization of borrowing costs on lands, (2) capitalization of borrowing costs on lands, (2) capitalization of borrowing costs on financial plan for a specific asset, and (3) identification of capitalization rate for basket acquisitions

*Regulations defined in SFAS No. 1, Summary of Generally Accepted Accounting Principles, are sometimes used for comparison to those international accounting standards without corresponding Taiwan GAAP.
bRegulations of the Reporting Rules for Security Issuers in Taiwan are sometimes used to compare with corresponding international accounting standards.

to its counterpart, IAS 8. Another Taiwanese standard, SFAS No. 1, differs from IAS 16, *Accounting for Property, Plant and Equipment*, only in the account titles used for the revaluation of long-term assets.[7] These two standards are listed in panel B as having no significant differences between IAS and Taiwanese GAAP.

The majority of the remaining comparisons, 11 in total, indicate differences in disclosure requirements between IAS and Taiwanese GAAP. These differences are presented in panel C of Table 2. Although for the most part minor, some of the disclosure differences are substantial. For example, IAS 24 requires disclosure of related party information only when control exists. SFAS No. 6, however, because of the related family nature of business holdings in Taiwan, contains broad disclosure requirements for all of management's family members as well as the family members of managers of related companies. SFAS No. 20 requires the evaluation of financial trends and the contribution of significant customers in determining whether to disclose segment information. Its counterpart, IAS 14, contains much less specific evaluations. IAS 9 requires disclosure of research and development costs (R&D) regardless of the accounting method used. The RRSI specify disclosure only when R&D is funded by sources outside of the reporting entity. Finally, SFAS No. 7 allows exceptions to consolidation depending upon the profitability or materiality of a subsidiary. IAS 22 does not allow these exceptions. The remaining disclosure differences result because the IAS and the SFAS differ in specific disclosure requirements. Those differences are not material, however, because the standards are similar in spirit.

The eight IAS and their corresponding Taiwanese GAAP that require different valuation methods are listed in panel D of Table 2. Some of the notable differences include inventory, leases, foreign currency transactions, and business combination accounting. More specifically, SFAS No. 10 allows either net realizable value or replacement cost for the valuation of inventory, while IAS 2 only allows net realizable value. SFAS 17 requires the temporal method while IAS No. 17 requires the current method for translation of cash activities included in the Statement of Cash Flows. SFAS 2 can require government interest rates rather than the lessee's implicit borrowing rate to discount future lease payments. Its counterpart, IAS 17, only requires that the lessee's borrowing rate be used. Deferral of long-term exchange rate effects on monetary items is allowed by IAS 21 but not allowed by SFAS No. 14. Finally, pooling is not used in Taiwan although IAS 22 allows the pooling method for business combinations.

The next section examines the conformity of Taiwanese standards with IAS in an historical context.

The 1988 IASC Survey and Changes in Conformity to IAS in Taiwan

In 1988, the IASC published the *Survey of the Use and Application of International Accounting Standards 1988*. The survey describes the level of conformity of domestic accounting requirements to IAS, including the 13 Taiwanese standards published up to that date. The final objective of this study is to confirm the survey results and to

determine the degree to which new Taiwanese accounting principles conform to international accounting standards.

The 1988 survey uses six levels to describe conformity to IAS. The six levels provide a structure with which to compare Taiwanese GAAP with IAS. The six levels are:

(1) IAS adopted as a national requirement;

(2) IAS used as the basis for a national requirement;

(3) national requirement developed separately and conforms, in all material respects, with IAS;

(4) no national requirements but national practice generally conforms with IAS;

(5) national requirement developed separately but national practice does not conform with IAS; and

(6) no national requirements and national practice does not generally conform with IAS.

The analysis of differences presented in Table 2 is first used to update the information relating to Taiwan found in the survey. Table 3 shows how the degree of conformity of Taiwan GAAP to the use and application of IAS changed from the 1988 survey to date. In the table, the results of the 1988 survey are shown as an non-bold X and the results of the current analysis as a bold **X**. Five of the 28 IAS available at the time of the 1988 survey have different conformity levels than shown in the survey. First, although no conformity level is identified for IAS 1 in the survey, examination reveals it should be considered level 2, that is, IAS used as the basis for a national requirement. Second, if the RRSI had been considered in the 1988 survey, conformity with IAS 5 would be level 3, that is, national requirement developed separately and conforms, in all material respects, with IAS. Third, conformity of IAS 14 changes to level 4 from level 5, indicating that national practice generally conforms with IAS. Last, the conformity of both IAS 19 and IAS 21 change from level 6 to level 2.

IAS 26, which relates to retirement benefit plans, was not compared to Taiwanese GAAP in the 1988 survey. With SFAS No. 22 issued in 1994, the conformity level is now level 2. Because of their later release dates, IAS 27 through 31 were not included in the 1988 survey. Comparisons of newly issued Taiwanese GAAP with IAS 27 and 28 show their conformity to be level 3. IAS 29, *Financial Reporting in Hyper-inflationary Economies*, is not applicable to the Taiwanese economy. Finally, analysis of Taiwan reporting practices suggests that conformity to IAS 30 and 31 is level 6, that is, no national requirements and national practice does not generally conform with IAS.

The data presented in Table 3 suggest that standards being developed in Taiwan generally conform to IAS. Of the Taiwanese standards and accounting practices corresponding to the 29 IAS analyzed in this study only three indicate requirements not in conformity with IAS. In addition, changes in reporting requirements since 1988 suggest that Taiwan is continuing to issue standards that conform in all material respects with IAS.

Table 3. The degree of conformity of Taiwanese GAAP with International Accounting Standards[a]

	1 IAS adopted as a national requirement	2 IAS used as the basis for a national requirement	3 National requirement developed separately and conforms, in all material respects, with IAS	4 No national requirements but national practice generally conforms with IAS	5 National requirement developed separately but does not conform with IAS	6 No national requirement and national practice does not generally conform with IAS
Panel A: *IAS included in the Survey of the Use and Application of International Accounting standards 1988*						
IAS 1: Disclosure of Accounting Policies[b]						
		X				
IAS 2: Valuation and Presentation of Inventories in the Context of the Historical Cost System						
			X			
			X			
IAS 4: Depreciation Accounting						
				X		
				X		
IAS 5: Information to be Disclosed in Financial Statements						
				X		
			X[c]			
IAS 7: Statement of Changes in Financial Position						
			X			
			X			
IAS 8: Unusual and Prior Period Items and Changes in Accounting Policies						
			X			
		X				
IAS 9: Accounting for Research and Development Activities						
				X		
				X		
IAS 10: Contingencies and Events Occurring After the Balance Sheet Date						
			X			
			X			
IAS 11: Accounting for Construction Contracts						
			X			
			X			

Continued...

Table 3. Continued

	1 IAS adopted as a national requirement	2 IAS used as the basis for a national requirement	3 National requirement developed separately and conforms, in all material respects, with IAS	4 No national requirements but national practice generally conforms with IAS	5 National requirement developed separately but does not conform with IAS	6 No national requirement and national practice does not generally conform with IAS
IAS 12: Accounting for Taxes on Income						
				X		
				X		
IAS 13: Presentation of Current Assets and Current Liabilities						
				X		
				X		
IAS 14: Reporting Financial Information by Segment						
				X		
			X			
IAS 15: Information Reflecting the Effects of Changing Prices						
				X		
				X		
IAS 16: Accounting for Property, Plant and Equipment						
				X		
				X		
IAS 17: Accounting for Leases						
			X			
			X			
IAS 18: Revenue Recognition[b]						
				X		
IAS 19: Accounting for Retirement Benefits in the Financial Statements of Employers						
						X
		X				
IAS 20: Accounting for Government Grants and Disclosures of Government Assistance						
				X		
				X		
IAS 21: Accounting for the Effects of Changes in Foreign Exchange Rates						
						X
		X				

Continued...

Table 3. Continued

	1 IAS adopted as a national requirement	2 IAS used as the basis for a national requirement	3 National requirement developed separately and conforms, in all material respects, with IAS	4 No national requirements but national practice generally conforms with IAS	5 National requirement developed separately but does not conform with IAS	6 No national requirement and national practice does not generally conform with IAS
IAS 22: Accounting for Business Combinations						X **X**
IAS 23: Capitilization of Borrowing Costs			X **X**			
IAS 24: Related Party Disclosure			X **X**			
IAS 25: Accounting for Investments			X **X**			
IAS 26: Accounting and Reporting by Retirement Benefit Plans[b]		**X**				
Panel B: *IAS not included in the Survey of the Use and Application of International Accounting Standards 1988*						
IAS 27: Consolidated Financial Statements and Accounting for Investments in Subsidiaries			**X**			
IAS 28: Accounting for Investments in Associates			**X**			
IAS 29: Financial Reporting in Hyperinflationary Economies						**X**
IAS 30: Disclosures in the Financial Statements of Banks and Similar Financial Institutions						**X**
IAS 31: Financial Reporting of Interests in Joint Ventures						**X**

[a]This table presents the results of the Survey of the Use and Application of International Accounting Standards 1988 as non-bold Xs. The bold Xs represent current Taiwan GAAP conformity to IAS.
[b]No conformity level identified in the Survey of the Use and Application of International Accounting Standards 1988.
[c]Conformity level should be 3, considering the Reporting Rules for Security Issuers.

Conclusion

This study compares the development of accounting standards in Taiwan with existing IAS. The study shows the association between one country's accounting standards and the standards developed by the IASC. Taiwan may be particularly likely to develop compatible standards because of the importance of international markets to its economy. The comparisons shown in this paper suggest that accounting standards in Taiwan are compatible with IAS.

Inferences as to the role of IAS in the development of standards in Taiwan are not possible from our comparison of standards. Many factors influence the development of international and Taiwanese accounting standards and, therefore, affect the likelihood of comparable standards. The observation of compatible standards, therefore, may not reflect active compliance with IAS. Taiwan accounting standards may be in compliance with IAS because US GAAP is compatible with IAS and Taiwan relies on US GAAP in developing its accounting standards.[8] On the other hand, observation that standards are not compatible does not imply an unwillingness of individual countries to participate in a worldwide accounting framework. In other words, IAS may be unsuitable to the economic information peculiar to a particular country.

Taiwanese GAAP, however, because of the export-oriented economy of Taiwan, is likely to comply with IAS despite the influence of US GAAP. The evidence presented in this paper and the nature of the Taiwanese economy suggests that Taiwanese GAAP will continue to comply with IAS as new standards are developed. In addition, evidence that a country such as Taiwan is developing financial standards compatible with IAS provides some insight into the applicability of the standards being developed by the IASC.

Appendix A: Differences Between Taiwanese and International Accounting Standards

IAS 1: Disclosure of Accounting Policies

Disclosure of accounting policies is governed by SFAS No. 15, *Disclosure of Accounting Policy*, published in 1989. In addition to the fundamental accounting assumptions discussed in paragraphs 16–22 in IAS 1, SFAS No. 15 includes disclosures related to instalment sales. IAS 1, on the other hand, contains reserve accounting disclosures not included in SFAS No. 15.

IAS 2: Valuation and Presentation of Inventories in the Context of the Historical Cost System

SFAS No. 10, *Valuation and Presentation of Inventories*, published in 1987, requires that inventory valuation be based on the lower of either historical cost or market price.[9] Market price can be either replacement cost or net realizable value such that replacement cost equals acquisition cost and net realizable value equals sales price less both production and selling costs. IAS 2 only allows the lower of either historical cost or net realizable value for inventory valuation.

Because the use of net realizable value is not restricted in Taiwan, net realizable value may be chosen even when exceeding cost. SFAS No. 10 also requires the use of average market prices in the presence of significant inflation or deflation. Finally, the lower of cost or market is not allowed for LIFO users in Taiwan.

IAS 4: Depreciation Accounting

No official bulletin presently addresses depreciation accounting in Taiwan. National practice, however, generally conforms with IAS.

IAS 5: Information to be Disclosed in Financial Statements

Taiwan has no standard which compares directly with IAS 5, which requires disclosure of specific balance sheet and income statement items. SFAS No. 1, *Summary of Generally Accepted Accounting Principles*, however, provides eight broad guidelines for disclosure. The RRSI also require detailed disclosures of other financial statement items.

IAS 7: Statement of Changes in Financial Position

SFAS No. 17, *Statement of Cash Flows*, was issued in 1989 to replace SFAS No. 4, *Statement of Changes in Financial Position*, issued in 1983. IAS 7 and SFAS No. 17 differ somewhat in the translation of foreign cash balances. SFAS No. 17 and the RRSI have the additional requirement that foreign currencies be translated according to the temporal method for cash transactions presented in the Statement of Cash Flows unless the weighted average exchange rate approximates the exchange rate at the transaction date. Also, foreign currencies on the balance sheet date should be translated according to the exchange rate of that day, with disclosure of any differences.

Notes accompanying SFAS No. 17 indicate that it was not based on IAS 17 but rather the comparable US GAAP, *Statement of Financial Accounting Standards No. 95, Statement of Cash Flows*. SFAS No. 95 is similar in content to IAS 7, therefore SFAS No. 17 also conforms with IAS 17.

IAS 8: Unusual and Prior Period Items and Changes in Accounting Policies

No significant difference exists between SFAS No. 8 and IAS 8. The discussion of unusual items is found in SFAS No. 1, however, and not in SFAS No. 8.

IAS 9: Accounting for Research and Development Activities

Taiwan has no national requirements regarding research and development activities, but practice generally conforms with IAS. The RRSI, however, require disclosure of all research and development costs, while paragraph 23 of IAS 9 requires disclosure of the costs when either capitalized or expensed.

IAS 10: Contingencies and Events Occurring after the Balance Sheet Date

Most of the definitions and requirements found in SFAS No. 9, *Contingencies and Events Occurring after the Balance Sheet Date*, published in 1986, are identical to

those found in IAS 10. One difference, however, lies with the requirement in IAS 10 to disclose dividends declared after the balance sheet date, a requirement that is not found in SFAS No. 9.

IAS 11: Accounting for Construction Contracts

SFAS No. 11, *Accounting for Long-Term Construction Contracts,* issued in 1987, differs somewhat from IAS 11. IAS 11 requires consistent procedures when accounting for similar contracts. IAS 11 also requires including expected warranty costs in recording construction contracts. SFAS No. 11, on the other hand, provides guidance for the accounting for multiple long-term contracts in progress. Specifically, construction costs exceeding cash advances on one contract cannot offset cash advances exceeding construction costs on another contract unless the contracts apply to a single construction plan.

Given likely future cash collection, the RRSI allow the percentage of completion method if subcontractors provide all of the labor and all of the materials for the construction of custom housing.

IAS 12: Accounting for Taxes on Income

Although not compared in this paper SFAS No. 22 issued in 1994 addresses income tax accounting.

IAS 13: Presentation of Current Assets and Current Liabilities

No Taiwanese GAAP corresponds directly to IAS 13 although SFAS No. 1 provides for similar definitions and classifications of current and noncurrent assets and liabilities. SFAS No. 1, however, contains less detailed descriptions of the differences between current and noncurrent items.

IAS 14: Reporting Financial Information by Segment

SFAS No. 20, *Disclosure of Financial Information by Segment*, published in 1992, is the comparable Taiwanese GAAP to IAS 14. IAS 14 and SFAS No. 20 are generally similar. IAS 14, however, places greater emphasis on the purpose of reporting and disclosing segment information than does SFAS No. 20. SFAS No. 20 provides more technical reporting and disclosure guidelines. SFAS No. 20 also uses the term "foreign operating segment" instead of "geographical segment" that is used in IAS 14.

SFAS No. 20 requires segment reporting if a segment is at least 10 percent of consolidated revenue, operating profit, or total assets. The 10 percent criterion applies to total export sales revenues and to the total purchases of significant customers. Furthermore, the number of segments is restricted to no more than 10. IAS 14 only suggests that some countries may require separate disclosure of export sales and provides no guidance on significant customers.

RRSI require additional disclosures on industry and geographical segments.

IAS 15: Information Reflecting the Effects of Changing Prices

A Taiwan GAAP corresponding to IAS 15 does not exist at the present time.

IAS 16: Accounting for Property, Plant, and Equipment

Taiwan does not have a pronouncement specifically addressing fixed asset accounting. SFAS No. 1, however, includes some definitions that are similar although less specific than the definitions in IAS 16. Both SFAS No. 1 and IAS 16 allow the revaluation of noncurrent assets. A land increment reserve and related tax reserve account are used for land revaluations. Other asset revaluations, primarily fixed assets, result in capital surplus accounts classified in Stockholders' Equity as either "Asset Increment Reserve" or "Capital Reserve." IAS 16 only requires classification as "Revaluation Surplus".

Interestingly, the RRSI, although generally otherwise, are less specific as they relate to IAS 16. The RRSI only include disclosure of the revaluation amount and the date of the revaluation. The historical cost and revaluation surplus should be presented separately in the balance sheet. Any tax reserve due to land revaluation is to be classified as long-term debt.

IAS 17: Accounting for Leases

The Taiwanese GAAP related to IAS 17 is SFAS No. 2, *Accounting for Leases*, published in 1984. IAS 17 and SFAS No. 2 are similar except that SFAS No. 2 contains more specific lease criteria than does IAS 17. SFAS No. 2 also includes finance leases by manufacturers and real estate companies and lease cancellations and revisions.

IAS 17 provides broader guidelines for capital lease classification, with SFAS No. 2 providing more specific criteria.[10] IAS 17 uses the interest rate implicit in the lease or the lessee's incremental borrowing rate to discount lease payments. The official bulletin, on the other hand, requires the lower of the highest non-money market interest rate announced by the Ministry of Finance at the inception date of the lease or the lessor's implicit interest rate. Other lease classification criteria are similar although the term 'finance lease' used in IAS 17 appears to be synonymous with the term 'capital lease' used in the official bulletin.

The RRSI require that operating lease leasehold improvements be classified as fixed assets.

IAS 18: Revenue Recognition

SFAS No. 1 provides similar but less specific guidance for revenue recognition than is provided by IAS 18. Both standards allow the percentage of completion and instalment methods for revenue recognition relating to long-term contracts.

IAS 19: Accounting for Retirement Benefits in the Financial Statements of Employers

Current accounting for pensions is dictated by the basic labor law. The basic labor law requires a percentage of gross wages (of 2–15 percent) to be deposited in the Central Trust Bureau, a governmental agency.[11] Pension expense is the amount owed to the bureau. Pension plans, therefore, are independent to the reporting entity and therefore not shown on company financial statements.

SFAS No. 18, *Accounting for Pensions*, published in 1991, provides major changes in pension accounting when in effect for fiscal years ending after December 31, 1995. SFAS No. 18 end IAS 19 do not differ substantially as both are patterned after the US standard, *Statement of Financial Accounting Standards No. 87*. IAS 19, however, provides less technical guidance than does SFAS No. 18.

IAS 20: Accounting for Government Grants and Disclosure of Government Assistance

A Taiwanese standard comparable to IAS 20 has not been published.

IAS 21: Accounting for the Effects of Changes in Foreign Exchange Rates

SFAS No. 14, *Accounting for Foreign Currency Translation*, published in 1988, is the Taiwan GAAP comparable to IAS 21. The US standard, *Statement of Financial Accounting Standards No. 52*, and IAS 21 were both used as guidance in the development of SFAS No. 14. IAS are designed to be flexible to accommodate the accounting practices of different countries.[12] Consequently, IAS 21 was used as the basis for the official bulletin, but SFAS No. 52 was used for more specific items.[13]

IAS 22: Accounting for Business Combinations

Taiwan does not have an accounting standard directly corresponding to IAS 22. SFAS No. 1 does, however, specify that majority held long-term equity investments should be consolidated and that other equity investments be accounted for using the equity method. IAS 22 allows both the purchase and the pooling methods and provides guidance for goodwill. Goodwill and the purchase and pooling methods, as mentioned in IAS 22, have no counterpart in Taiwanese GAAP.

IAS 23: Capitalization of Borrowing Costs

SFAS No. 3, *Accounting for Capitalization of Borrowing Costs*, and IAS 23 differ as to technical guidance. For example, interest capitalization is mandated by SFAS No. 23 but only allowed by IAS 23.[14] SFAS No. 23 allows interest to be capitalized when related to real estate under development or construction. Capitalized interest related to land development is added to the cost of the land, and capitalized interest related to construction is added to the cost of construction. The amount of interest capitalized is limited by the amount of interest that theoretically could have been avoided.[15]

IAS 23 provides guidance for capitalization rates when groups of companies, different currencies, or varying rates of interest are involved. SFAS No. 3 does not include such guidance.

IAS 24: Related Party Disclosures

SFAS No. 6, *Disclosure of Related Party Transactions,* published in 1985 is the Taiwan GAAP comparable to IAS 24. The two standards have similar definitions of "related parties" although the definition is considerably broader in SFAS No. 3. For example, SFAS No. 3 broadens the definition of related parties to include spouses

and close relatives in the families of first and second-level management. Family members are defined by Chinese Civil Laws and include the parents, children, sisters, brothers, and sisters' and brothers' spouses of the manager and the manager's spouse.[16] SFAS No. 3 also includes as related parties those enterprises receiving more than one-third of their total funds from the reporting entity.

Paragraph 20 of IAS 24 requires disclosure of any relationship when control lies with the reporting entity, regardless of whether or not transactions have occurred between the related parties. SFAS No. 6, on the other hand, requires disclosure only if transactions occurred with the related parties during the accounting period.[17]

IAS 25: Accounting for Investments

No one Taiwanese standard directly compares to IAS 25. The portion of IAS 25 relating to current investment accounting is the same as the accounting for short-term investments described in paragraphs 19 and 20 of SFAS No. 1. The accounting for long-term investments described in IAS 25 is the same as that described in SFAS No. 5, *Accounting for Long-Term Investments in Equity Securities*, published in 1985. Official bulletin No. 5 discusses the accounting for cost-book value differentials while IAS 28, *Accounting for Investments in Associates*, includes this accounting issue in its scope.

IAS 25 defines as current those investments that are readily realizable and intended to be held for one year or less. SFAS No. 5 defines as current those investments which were acquired with surplus capital without intending to control or form close business relationships. The definition of current investments contained in SFAS No. 5, therefore, does not depend upon the intended holding period, as it does in IAS 25.[18]

The RRSI require audits of investments if the investee has capital greater than NT $10 000 000 (new Taiwan dollars), operating revenue greater than NT $40 000 000 or if the investee provides more than 10 percent of the investor's operating revenues.[19]

IAS 26: Accounting and Reporting of Retirement Benefit Plans

SFAS No. 18, *Accounting for Pensions*, published in 1991, covers the accounting for retirement benefits in the financial statements of employers. SFAS No. 18 satisfies all of the requirements of IAS 26 but requires less disclosure of actuarial valuations.

IAS 27: Consolidated Financial Statements and Accounting for Investments in Subsidiaries

SFAS No. 7, *Consolidated Financial Statements*, is the Taiwanese GAAP comparable to IAS 27. SFAS No. 7 and IAS 27 differ in their exceptions to consolidation. IAS 27 allows an exception when a parent firm is wholly owned by another firm. SFAS No. 7 allows an exception when the subsidiary has negative stockholders' equity, although this exception does not apply if the parent has guaranteed the subsidiary's liabilities or if evidence exists that the subsidiary will soon be profitable. Also, SFAS No. 7 allows an exception if a subsidiary's total assets and operating revenues are less than 10 percent of the parent's.

IAS 28: Accounting for Investments in Associates

SFAS No. 5, *Accounting for Long-Term Equity Investments*, discussed earlier in relation to IAS 25, is also the Taiwanese GAAP comparable to IAS 28. Although the two standards are for the most part identical as to the application of the equity method, SFAS No. 5 differs somewhat in the disclosures required. For example, the investor should transfer any gain or loss when associates dispose of assets from retained earnings to a capital surplus account in stockholders' equity. When material, the portion of the capital surplus account derived from long-term investments should also be disclosed in the financial statements.

IAS 28, on the other hand, provides guidance when investors and their associates use different reporting dates or accounting policies and when the investor's share of investee losses equals or exceeds the carrying amount of its investment. These guidelines are not found in SFAS No. 5.

IAS 29: Financial Reporting in Hyperinflationary Economies

No Taiwanese standard comparable to IAS 29 has been published.

IAS 30: Disclosures in the Financial Statements of Banks and Similar Financial Institutions

No Taiwanese standard comparable to IAS 30 has been published.

Notes

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5. An example of such interest is the proliferation of international mutual funds such as The Taiwan Fund.
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11. Observation of 65 1993 Taiwan annual reports indicates an average R & D expense of about 2 percent of sales.
12. Chu, M.L. "Analysis and Example for Official Bulletin of Financial Accounting Standard No. 14, Accounting for Foreign Currency Translation." *Accounting Research Monthly* (September 1988), 2.
13. The extent of differences between SFAS No. 14 and IAS 21 is beyond the scope of this paper. Chu (1988), however, adequately elaborates on the differences.
14. Chen, C.L. "Analysis and Example for Official Bulletin of Financial Accounting Standard No. 3, Accounting for Capitilization of Borrowing Costs." *Accounting Research Monthly* (November 1992), 7.

15. These provisions closely follow US GAAP. See Kieso, Donald L., and Jerry J. Weygant. *Intermediate Accounting* (New York, 1994) for a discussion of avoidable interest.
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17. Yang, C.T. "Analysis and Example for Official Bulletin of Financial Accounting Standard No. 6, Related Party Transaction Disclosures." *Accounting Research Monthly* (July 1987), 18.
18. Jiang, H.C. "Analysis and Example for Official Bulletin of Financial Accounting Standard No. 5, Accounting for Long-Term Equity Investment." Accounting Research Monthly (November 1992), 10.
19. US $384 615 and $1 538 461 when the exchange rate approximates US $1 = NT $26.

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Cash Reporting in Japan

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Key words: Japanese funds flow statement; Japanese accounting practices; Cash flow statement

Abstract: *for listed companies in Japan, the Commercial Code does not require the preparation of a funds flow statement while the Securities Law requires the preparation of a funds flow statement for parent companies as supplementary information. This article presents the funds flow statement for a Japanese company, explains its main characteristics, and restates it in the format required by US standards. The article explains the problems faced in restating the cash flow statement of one country into that of another. Additional disclosure or reconciliation would make it possible to compare cash flow statements by companies domiciled in different countries.*

The objective of this article is to present background information on and to illustrate the format used for funds flow reporting in Japan and then to restate the fund flow statement for a Japanese company to a format similar to the one issued by US companies. Certain aspects of funds flow statement in Japan will also be compared to the cash flow statements required by the Financial Accounting Standards Board (FASB) and by the International Accounting Standards Committee (IASC).

Regulatory Framework for Accounting in Japan

Figure 1 presents the institutional arrangements for setting accounting regulation and standards in Japan. The tax returns must be accompanied by financial statements prepared according to the Commercial Code. Consequently, these financial statements would include, for example, the maximum amount of doubtful accounts expense allowable by tax regulations rather than the amount which reflects the company's experience. Companies in Japan whose stocks are publicly traded fall under the jurisdiction of two codes: the Commercial Code (also called Corporate Commercial Law) and the Securities Law (also called Securities Transaction Act). For a company

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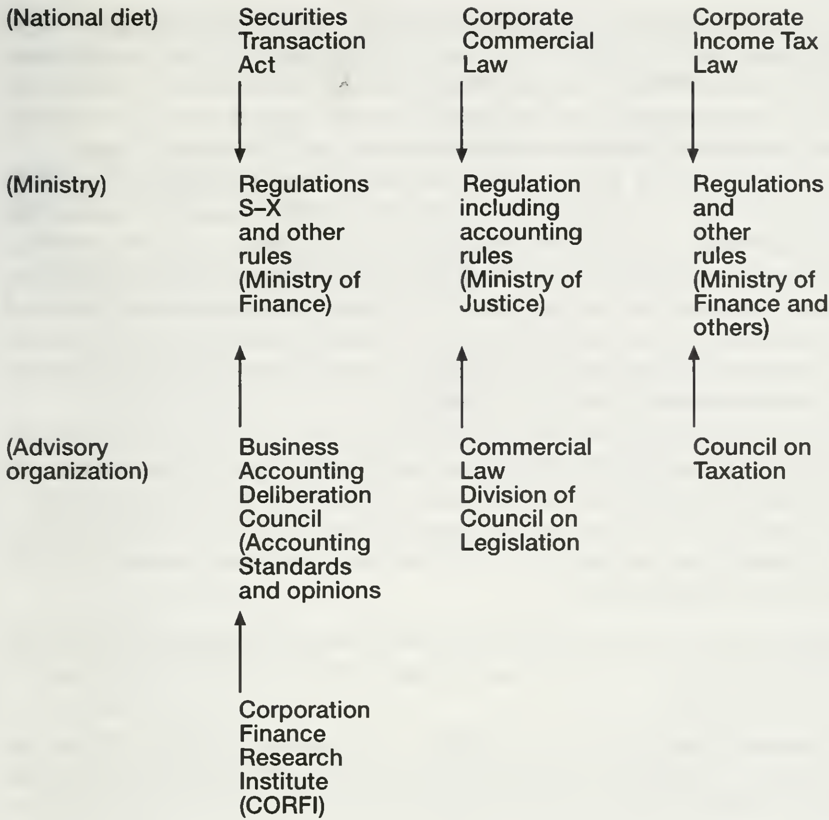

Fig.1. Institutional arrangements for setting accounting laws and standards in Japan. (Source: Arai and Shiratori, 1991)

with subsidiaries, the Commercial Code requires the preparation of parent-only financial statements. The required financial statements and the balance sheet, income statement, a proposal for income appropriation, and accompanying notes. The Securities Law considers the parent-only financial statements, as required by the Commercial Code, as the primary financial statements, while the funds flow statement for parent-only and consolidated financial statements are provided as supplementary financial statements. Listed companies in Japan are required, on a semi-annual and annual basis, to file reports with the Ministry of Finance (MOF). Separate reports are filed for the parent company only and for consolidated operations. These reports are available for sale to the public.

Funds Flow Reporting by Japanese Companies

In Japan, a funds flow statement is not required by the Commercial Code and, therefore, is not part of the required financial statements distributed to stockholders.

However, corporations whose securities are traded on a stock exchange in Japan must file reports with the MOF. The reports cover separately (1) the financial statements and related disclosures for the parent company which includes a funds flow statement as supplementary information, (2) the consolidated financial statements and related disclosures including segment reporting, and (3) an interim report.

In Japan, the Business Accounting Deliberation Council (BADC) of the MOF decided to deliberate on the improvement of funds flow information in late 1986. The BADC decided not to include a funds flow statement in the set of required financial statements because the Council felt that the timing was not appropriate. The Council indicated that the inclusion of a funds flow statement in the set of required financial statements required the preparation of standards for the preparation of the statement and its auditing. Consequently, the MOF issued a new regulation in respect to the disclosure of fund flow information.

The instructions on the form and content of the fund flow statement are provided by the MOF Ordinance and Notification, as amended in April 1987. Although the form specified by the MOF for the disclosure of fund flow information in called a fund flow statement in this article, the literal translation of this title of the form is "Table of Funds Inflow and Outflow". The funds flow statement filed with the MOF has the following characteristics.

(1) It defines funds as composed of cash and short-term marketable securities stated at the lower of cost or market and requires the use of the direct method in preparing cash flow.
(2) It divides activities into business activities and financing activities. Classes and subclasses of cash flows for each activity are specified by the form. Within each activity, specific subtotals, totals, and net inflows or outflows are required to be shown.
(3) It covers at least the prior year, the current year, and a forecast for the next six months.
(4) It is not audited and is not covered in the auditor's report.
(5) It requires the use of the direct method in presenting cash flows related to operations. However, no net inflow or outflow from operations is specifically identified.

Table 1 presents the unconsolidated statements of fund flow filed with the MOF by Suzutan Corporation for the year ending August 31, 1990 and six months ending February 28, 1991 and a forecast for the six months ending August 31, 1991.

There are no regulations regarding the presentation of data by Japanese companies to foreign investors. Some Japanese companies present a cash flow statement according to Financial Accounting Standards Board Statement No. 95 (SFAS-95), while others provide cash flow statements based on figures prepared in compliance with the Commercial Code and Corporate Tax Law but using the format of SFAS-95. Not all Japanese companies present cash flow statements to foreign investors. However, of the Japanese companies which present cash flow statement(s), the statement(s) may cover the parent company, the consolidated operations or both. When the cash flow statement is included as part of the set of financial statements disclosed to foreign investors, the auditor's report is modified to cover the cash flow statement.

Table 1. Suzutan Co. Ltd. Statement of funds flow in millions of yen

	9/1/1989 to 8/31/1990	9/1/1990 to 2/28/1991	Forecast 3/1/1991 to 8/31/1991
CASH FLOW FROM BUSINESS ACTIVITIES			
Cash Inflows			
1. Cash flows from operating activities	95 987	47 013	52 800
2. Cash revenue from non operating activities:			
(1) Cash from interest and dividends	906	580	273
(2) Cash from other non operating activities	782	76	24
Subtotal A	97 675	47 669	53 097
3. Cash from sale of property, plant, and equipment, and investments			
(1) Cash from sale of property, plant, and equipment		5	
(2) Cash from short- and long-term loans receivable			
(4) Cash from lease deposits made	405	195	136
(5) Cash from other	0	80	0
Subtotal B	405	280	136
Total (C=A+B)	98 080	47 949	53 233
Cash outflows			
1. Cash outflows for operating activities			
(1) Cash paid to suppliers	57 365	29 829	31 618
(2) Cash paid to employees	11 688	6 888	7 095
(3) Cash paid for other operating activities	15 756	8 442	8 610
2. Cash paid for interest and discount charges			
(1) Cash paid for interest and discount charges	251	129	202
(2) Cash paid for other non operating activities	178	42	10
Subtotal D	85 229	45 330	47 535
3. Cash for the purchase of property, plant, and equipment, etc.			
(1) Cash for the purchase of property, plant, and equipment	5 561	1 850	3 840
(2) Cash for purchase of long-term investment in securities	93	5	1

continued...

Table 1. Continued

	9/1/1989 to 8/31/1990	9/1/1990 to 2/28/1991	Forecast 3/1/1991 to 8/31/1991
(3) Cash from loans			
(4) Cash for lease deposits	2 291	1 511	1 200
(5) Cash for other	241	267	
Subtotal E	8 186	3 633	5 041
4. Cash paid after closing of a accounts			
(1) Cash dividend	459	223	195
(2) Cash paid for taxes	3 974	2 325	1 229
(3) Cash for bonuses to directors and statutory auditors	95	98	45
Subtotal F	4 528	2 646	1 469
Total (G=D+E+F)	97 943	51 609	54 045
Net cash provided by business activities (H=C-G)	137	-3 660	-812
CASH FLOW FROM FINANCING ACTIVITIES			
Cash inflows			
(1) Cash from short-term loans	417	250	
(2) Cash from discounted notes receivable			
(3) Cash from long-term borrowing	2 480	700	2 000
(4) Issue of convertible bonds			
(5) Sale of common stock	1 519	0	
(6) Cash from other financing			
Total I	4 416	950	2 000
Cash outflows			
(1) Payment of short-term loans	217	278	250
(2) Payment of long-term loans	616	412	482
(3) Redemption of bonds			
(4) Other cash outflow			
Total J	843	690	732
Net cash provided by financing activities (K=I-J)	3 573	260	1 268
Net cash provided by all activities (L=H+K)	3 710	–3 400	456
Adjustment for valuation at the lower of cost or market, etc. (M)	–457	–224	
Cash and marketable securities at the beginning of the year (N)	16 225	19 508	15 884

continued...

Table 1. Continued

	9/1/1989 to 8/31/1990	9/1/1990 to 2/28/1991	Forecast 3/1/1991 to 8/31/1991
Cash and marketable securities at the end of the year (O=L–M+N)	19 508	15 884	16 340

Note

	Year ending 8/31/1990 Beginning balance	Six months Ending balance	six months ending 2/28/1991	Forecast for six months ending 8/31/1991
Cash and time deposits	13 843	16 861	12 583	13 039
Marketable securities	2 412	1 647	3 301	3 301
Total	16 255	19 508	15 884	16 340

Definition of Cash

A cash flow statement is considered one of the primary financial statements required for presentation by the standard setters in the United States, Canada, New Zealand, South Africa, and the United Kingdom. The IASC has also issued an International Accounting Standard No. 7, revised in 1992 (Revised IAS-7), on cash flow statements.

For cash flow (changes in financial position) statements, cash is defined as cash and cash equivalents by standard setters in Canada, New Zealand, South Africa, the United States, the United Kingdom and by the IASC. These standard setters and IASC do not define cash and cash equivalents in a similar manner. For example, bank overdrafts are included in cash and cash equivalents by the Revised IAS-7 but not by SFAS-95.

The comparability of cash flow statements of parent companies domiciled in different countries is affected, therefore, by the manner by which cash is defined by standard setters. However, the comparability of consolidated cash flow statements among corporations domiciled in different countries is affected by the manner by which cash is defined as well as by the consolidation standard promulgated in each country.

In Japan, a fund for the purpose of preparing a fund flow statement is defined as cash and temporary investments stated at the lower of cost or market. Companies which disclose fund flow on the form specified by the MOF may disclose additional information which may make the statement more understandable. The form does not require the disclosure of noncash transactions for investment and financing activities.

The Classification of Activities in the Cash (Fund) Flow Statement

The Revised IAS-7 and SFAS-75 classify activities into operating, investing, and financing activities while the MOF form classifies fund flows into business and financing activities. SFAS-95 (para. 84) indicates that the relationship and trends of cash flows within each activity and among activities provide investors and creditors with useful information. Regardless of the classification used, detailed listings of cash flows would enable investors and creditors to reclassify cash flows to fit into their models of relevant cash flows.

Arbitrariness is inherent in most classification systems including that of the cash flows. The distinction among classes of cash activities specified by SFAS-95 may classify cash flows which are fundamentally the same, such as the purchase and sale of inventory and purchase and sale of plant assets into different activities and may classify cash flows of different activities and may classify cash flows of different activities, such as dividends received and interest paid into one activity (Nurnberg, 1993).

Presumably, cash from operating activities converts the net income from an accrual basis to a cash basis. This presumption, however, manifests many problem. The income statement does not measure income from operating activities only. When the FASB issued SFAS-95, it made arbitrary decisions as to the type of activity under which interest and dividend received in cash and interest paid in cash would be classified. Although some would argue that the three items do not relate to operating activities, SFAS-95 included all three items in cash from operating activities. The Revised IAS-7 allows the inclusion of all these three items in operating activities or the inclusion of cash paid for interest in financing activities and cash received from interest and dividends in investing activities. In addition, the Revised IAS-7 allows the discretion in classifying cash for dividends paid under operating activities or financing activities. Although the form devised by the MOF does not distinguish between operating and investing activities, the form requires the disclosure of interest and dividends received as well as interest and dividends paid separately within the business activities.

Operating activities may be reported, according to SFAS-95 and the Revised IAS-7, using the direct or the indirect method (also called the reconciliation method). According to both statements, firms are encouraged to use the direct method, and when the direct method is used firms are encouraged to show major categories of gross cash receipts and payments and net cash flow from operating activities. The MOF requires the use of the direct method when reporting items related to operations.

Although obtaining the cash flow for operating activities using the direct or the indirect method should be the same, a number of accounting practices could produce different figures. Among these practices are the use of absorption costing in valuing manufactured inventory and the reclassification between current and noncurrent accounts.[1]

The direct method, considered superior in obtaining gross cash flows, is viewed as more useful to creditors and investors in predicting future cash flows because it

lists specific sources and uses of cash. These sources and uses of cash are considered more useful than a single figure representing cash from operations. The indirect method is considered easier to analyze by users and easier to prepare by preparers. The adjustments made to net income under the indirect method represent the leads and lags between cash flows and related revenues or expenses.

In an experiment conducted by Klammer and Reed (1990), it was found that bank analysts and loan officers who used the indirect format made inconsistent loan decisions compared to those who used the direct approach.

A reconciliation schedule, which contains the major classes of the items which reconcile net income, based on accrual accounting, to net cash flow from operations is required under SFAS-95. This schedule may be shown within the statement of cash flow, when the indirect method is used to report operating activities, or in a separate schedule, when either the direct of the indirect method is used to report cash from operating activities. The Revised IAS-7 and the form devised by the MOF do not require preparation of a reconciliation schedule.

The Contents of the Fund Flow Statement

The form developed by the MOF to be used for disclosing data related to fund flow, as shown in Table 1 for a Japanese company, reveals the following:

(1) Fund flow for business and financing activities. For each activity, the classes and subclasses of inflows are presented first, followed by classes and subclasses of outflows and net cash flow for that activity. For most of the subclasses of transactions, there is an item called "other" which may show, for some companies, substantial amounts of cash flow.
(2) Net cash provided by all activities.
(3) Adjustments for the valuation of marketable securities at the lower of cost or market.
(4) Cash and marketable securities at the beginning of the year.
(5) Cash and marketable securities at the end of year.

Foreign Currency Cash Flows and Cash Flows per Share

SFAS-95 and the Revised IAS-7 require the disclosure of the impact of the foreign exchange on cash and cash equivalents. The MOF form used to report fund flow does not require the separate disclosure of the impact of exchange rates on cash and marketable securities. However, for practical purposes, it is usually shown on the form. The form does not specifically require the disclosure of cash flow per share, which is not shown in the United States either, because according to SFAS-95, it is feared that such a figure may be interpreted as an indicator of a company's performance.

Supporting Disclosure for the Fund Flow Statement

The MOF requires that the beginning and ending balances for cash and marketable securities be shown separately in total. Table 1 shows the required disclosure. In addition, companies are allowed to provide their own disclosures which they deem useful. The form does not require the disclosure of noncash investing and financing activities. Such a disclosure outside the cash flow statement required by SFAS-95 is not clear and may make cash flow statements not comparative (Nurnberg, 1993).

Presenting a Fund Flow Statement for a Japanese Company

Data from a Japanese company, Suzutran Co. Ltd. called "the Company" in this article), will be used as an illustration. In 1990, the Company's fiscal year ended on August 31, but thereafter it was changed to the end of February. Therefore, Table 1 presents the funds flow statement filed with the MOF for year ending August 31, 1990 and for six months ending on February 28, 1991 due to the change of fiscal year. If it were not for the change, the Company would have to present funds flow data for two consecutive years. In addition, the funds flow statement presents a forecast of cash flow for six months beyond the end of the current fiscal period.

The company is the largest retail chain of stores that sells women's apparel in Japan. In 1991, the company's end of fiscal year was changed from August 31 to end of February. Data related to fiscal year ending August 31, 1990 and six months ending February 28, 1991 are given below.

	Fiscal year Ending 8/31/1990		Six months ending 2/28/1991	
	Millions of yen[2]	Thousands of US$ (¥144.25/$)[3]	Millions of yen[4]	Thousands of US$ (¥132/$)[5]
Net sales	93 823	650 422	44 524	337 305
Net income	3 837	26 600	1 376	10 428
Total assets	62 158	430 906	61 756	467 847

Cash equivalents is a term not in use in Japan. Therefore, the cash flow statement prepared in this section accounts for the change in cash only. The Company indicates that the cash, as of February 28, 1991 is composed of the following, expressed in millions of yen:[6]

Cash	97
Checking account	1 473
Checking account, with interest	57
Time deposit	10 956
Cash	12 583

The company disclosed that the time deposits have original maturity dates of one year or less and can be withdrawn at least at face value without penalty.

The Revised IAS-7 requires the disclosure of the components of cash and cash equivalents while SFAS-95 requires the disclosure of the components of cash equivalent.

Three items on Table 1 require explanation because they reflect unique accounting practices in Japan. The three items relate to cash paid after the closing of accounts which include year end dividend, taxes, and bonuses to directors and statutory auditors. These items are described in the next three paragraphs.

According to the Commercial Code, the annual general meeting, held within three months after the end of fiscal year, must approve (1) the transfer of amounts from the unappropriated retained earnings to legal reserve, (2) the distribution of the fiscal year end dividends, (3) the distribution of bonuses to statutory auditors and directors and, (4) the transfer of amounts from unappropriated retained earnings to general reserve and/or reserves for specific purposes. When these items are approved, they are booked and cash is paid for items which require cash payments. The annual meeting held to approve the financial statements of fiscal year 1989/1990 approved the Company's request to distribute ¥223 million for dividends and ¥98 million for bonuses to directors and statutory auditors. Subsequent to approval, the dividends and bonuses were disbursed in the fiscal period ending February 28, 1991. Any interim dividends paid during the fiscal period are included in line (F) (4) (1), as shown in Table 1. Suzutan did not declare any dividends in the period September 1, 1990 to February 28, 1991.

The main categories of taxes in Japan include (1) the national corporate income tax, (2) the inhabitant tax and enterprise tax, both levied on profit which are paid to prefectural and local governments, and (3) the enterprise establishment tax levied on enterprises in certain cities and considered a municipal tax rather than income tax. In the fund flow statement filed with the MOF, the national corporate income tax and inhabitant tax are shown on line F (4) (2). The enterprise tax and the enterprise establishment tax are usually combined together in a Japanese income statement and listed as a separate item under selling, general, and administrative expenses. When cash is paid for these two taxes, it is shown on line D (1) (3) as in Table 1. The enterprise establishment tax is a small component of the total of the enterprise tax and the enterprise establishment tax. By analyzing the income statement and related balance sheet accounts, one would find that the cash paid for the enterprise tax and enterprise establishment tax for the September 1, 1990 to February 28, 1991 was equal to ¥620 400 000. However, an analyst cannot separate this amount into an enterprise tax and an enterprise establishment tax. This is an example of classification which would enable analysts to restate the Japanese fund flow statement into a format similar to the one required by the SFAS-95 and the Revised IAS-7.

Japanese certified public accountants who are familiar with SFAS-95 classify bonuses to statutory auditors and directors under either operating or financing activities when preparing the funds flow statement in SFAS-95 format. The choice made by the Japanese certified public accountants is arbitrary and is similar to the one made by the FASB and IASC in respect to the classification of cash paid for interest, and cash received for dividends and interest. However, US standards would classify these bonuses as operating activity.

Restating the Fund Flow Statement Using the Format of SFAS-95

Analysts may be interested in examining the cash flow of a foreign corporation in a format comparable to the end used in the United States in the presentation of the cash flow statement. A Japanese funds statement provides information needed to prepare a cash flow statement in a format required in the United States. However, the information disclosed is inadequate for the reconciliation of the net income to cash from operation. This article illustrates the preparation of the cash flow statement, in a format familiar in the United States, from the Japanese funds statement.

Cash equivalent is a term not in use in Japan. Therefore, the cash flow statement prepared in this section accounts for the change in cash only.

Table 2 presents the unconsolidated statement of cash flows for the Suzutan Corporation for one period only prepared according to the format acceptable for cash flow statement in the United States.

Cash-related activities are shown under the three categories: operations, investing, and financing. The direct method is used to show cash related to operating activities. The supporting disclosure related to a non cash financing activity, which was obtained from notes to financial statements, is also shown. The Japanese financial statements do not provide information to make possible to prepare a reconciliation schedule which reconciles net income to cash related to operations.

Summary and Conclusions

Cash flow reporting is useful especially in comparing companies over a period of time without having the data affected by differences in the accounting procedures used within one country and by differences in the accounting procedures used within one country and by differences in the accounting standards practised in various countries. However, the comparability of cash flows for parent companies is affected by the differences in the manner by which cash is defined unless additional disclosures are made. In addition, the comparability of consolidated cash flows is affected by the consolidation standards in each country unless reconciliation to international standards, for example, is made.

This article illustrated the restatement of Japanese funds statement for a parent company in a format acceptable in the United States. However, there were no adequate disclosures to prepare a reconciliation of net income to cash from operations. As this article demonstrated, if additional disclosures are made, one should be able to modify the cash flow from the format of one country to that of another. However, differences in the classification of cash flows will continue to exist in the cash flow statements from different countries. The differences in the classification of cash flows may be considered to be a lesser problem than differences in accounting standards and practices. The differences in the classifications of cash flow could be easily resolved with additional disclosure.

It would be helpful if companies whose shares are traded internationally were to provide additional data to make it possible for analysts to restate the cash flow

Table 2. Suzutan Co. Ltd. Statement of cash flows for the six months ended February 28, 1991 in millions of yen

Cash flows from operating activities:	
Cash revenue from operating activities	47 013
Cash from interest and dividends (nonoperating activities)	580
Cash from other nonoperating activities	76
Cash paid to suppliers	(29 829)
Cash paid to employees	(6 888)
Cash paid for other operating activities	(8 442)
Cash paid for interest, discount charges and other nonoperating activities	(129)
Cash paid for other nonoperating activities	(42)
Cash paid for taxes (after settlement of accounts)	(2 325)
Bonuses to directors and statutory auditors	(98)
Net cash used by operating activities)	(84)
Cash flows from investing activities:	
Proceeds from sale of property, plant, and equipment	5
Cash from lease deposits	195
Proceeds from other	80
Cash for the purchase of property, plant, and equipment	(1 850)
Cash for purchase of long-term investment in securities	(5)
Cash for lease deposits	(1 511)
Cash for other	(267)
Cash for marketable securities	(880)
Cash used by investment activities	(4 233)
Cash flows from financing activities	
Cash dividend	(223)
Cash from short-term loans	250
Cash from long-term borrowing	700
Payment of short-term loans	(278)
Payment of long term loans	(412)
Cash provided by financing activities	37
Net decrease in cash	(4 280)[a]
Cash at beginning of year	16 861
Cash at end of year	12 583

[a]Due to rounding, otherwise the number should be (4 278).

statement of a foreign company into the local format. This article has demonstrated that the cash flow statement of one country could be restated to the format of another country, with some limitations. This article has also demonstrated the need for additional disclosure in order to remove the limitations in restating the cash flow statement from a format used in one country to that of another country.

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1. Ralph E. Drtina and James A. Largay III, "Pitfalls in Calculating Cash Flows from Operations." *Accounting Review* (April 1985), 314–326.
2. Suzutan Company Ltd., Report to Ministry of Finance.
3. International Monetary Fund, "International Financial Statistics." March 1991, 311.
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Book Reviews

The Future of the Accounting Profession: A Global Perspective

By Kenneth S. Most. Quorum, London, 1993, 240 pp. $55.00.

This book provides an excellent and concise delineation of how the accounting profession has developed and arrived at its position in society in the 1990s. The book addresses both preparers and auditors of financial statements from the perspective that a significant paradigm shift is needed if the accounting profession is to remain viable into the future. The exposition of current accounting principles and auditing standards is addressed primarily from a US perspective Financial Accounting Standards Board (FASB) accounting principles and American Institute of Certified Public Accountants (AICPA) auditing standards) but these are expanded to mention and include other more industrialized countries as well.

The author has written this book based on extensive experience as both a practitioner and an academic. It appears to be intended for an audience of either practitioners or academics who wish to obtain an improved background and global perspective of the development of accounting thought. It does not appear to have the objective of providing specific guidance changing the practice of accounting although some alternative to the traditional financial statements are provided. There are 14 chapters that can be grouped into three overall categories: Chapters 1–4 explain the history and development of the accounting profession; Chapters 5–11 expose many of the problems besetting the profession in the 1990s; and Chapters 12–14 examine the future for potential improvements in financial reporting and associated audit of those reports.

Chapter 1 presents the premise, consistently held through the remaining chapters, that the accounting profession is in trouble. It is being attacked by members from within the profession and by external parties, including investors, regulators, legislators, and the general public. Although the profession is largely self-regulating, the process has become politicized, does not adequately identify the economic consequences desired by investor and creditor-oriented stockholders, and does not properly report the accountability of organizations desired by society. Chapter 2 provides a history of accounting development broken into four periods: (1) antiquity (prehistory to AD 400), (2) double-entry (AD 400–1500), (3) the Industrial Revolution (AD 1500–1800, and (4) the managerial revolution (AD 1800–present). Chapter 3 discusses attempts to explain the logic of the basic double-entry accounting model

from early book keeping (Pacioli) to the present time with emphasis of FASB's conceptual framework. The conclusion, however, is that a consistent, comprehensive, and uniform system for global reporting has not yet been developed. Chapter 4 explains the development of Generally Accepted Accounting Principles (GAAP) from a US perspective starting with the American Association of Public Accountants in 1894. The search for principles is traced through formation of the SEC in 1993 to the creation of the Committee on Accounting Procedure (1936) and their issuance of *Accounting Research Bulletins* through 1958. Promulgations by the Accounting Principles Board (APB) (1958–72), FASB (1973–present) and GASB (1989–present) are also reviewed. It is concluded that the size, complexity, and required political compromises undermine the usefulness of GAAP.

Chapter 5–8 discuss various problems facing the profession in the 1990s. In Chapter 5 the author describes why the expectation gap between the auditors and stakeholders of the audit report is growing due to problems in accounting education gap between auditors and stakeholders of the audit report is growing due to problems in accounting education, corporate governance, legal liability, competition and independence. Additional financial reporting and auditing problems brought about by multinational business and global financial markets are presented in Chapter 6. The central theme of the chapter is that enlightened self-interest dictates that financial statements and associated audit reports become more comparable and meaningful. Unfortunately, the proliferation of standards and conflicting legal systems of countries and groupings such as the EC prevent the IASC from developing and promulgating a harmonized set of standards.

Chapter 7 follows to explain that desired harmony in accounting standards is also hindered by the lack of a meaningful conceptual framework for financial accounting and reporting. Although the FASB conceptual framework statements have been welcomed by most other industrialized countries and the IASC, the author demonstrates that the framework is seriously flawed due to its methodology of development, the political nature of its promulgations, and the lack of sound intellectual underpinnings. Chapter 8 further expands on the legal and regulatory system differences between the United States (Securities Exchange Commission (SEC)), the United Kingdom (Companies Act), Canada (Business Corporations Act), and other statutorily driven European countries. An inventory valuation example is used to show that even in the United States where professional self-regulation is least constrained by law, disclosure requirements are ambiguous and sometimes in conflict between GAAP, the SEC, and the IRS.

Chapters 9 and 10 identify, isolate, and concisely illustrate different valuation methods for dealing with changing prices and their impact on financial statements. The promulgations (1979) and subsequent suspension (1984) of FAS 33, "Financial Reporting and Changing Prices", are used to illustrate the differences between constant dollar and current value approaches to adjusting financial data. It is concluded that current cost (value) accounting is the state of the art, but that legal liability problems prevent meaningful accounting and reporting to external parties based on current costs. Additional problems of financial representation are discussed in Chapter 11. The author discusses various approaches to and objectives of the balance sheet, income statement, and statement of cash flows. Even when accompanied by footnotes

that have come to be viewed as a substitute for disclosure in the body of the statement or for supplementary statements, the reporting does not adequately meet the needs of financial statement users. It is concluded that additional non-financial information and supplementary schedules, such as required by Regulation S-X, should accompany annual reports.

Chapters 12, 13, 14 are intended to provide partial solutions to the multitude of problems raised in the preceeding chapters. UK and French standardized accounting plans are presented as alternative to the US patchwork of promulgated and non-promulgated GAAP. Although neither alternative is strongly recommended, global standardization is stated as the first required step in improving financial reporting. The problem recognized is that no single body (such as AICPA, the International Accounting Standards Committee (IASC), or SEC), no group (societies of practitioners or academics), nor any legal system has the ability to dictate or lead the profession to a significant shift from the status quo. Auditing is presented as a profession that has declined due to involvement with ancillary activities (failing to specialize on the audit), the inhability to develop new audit products that provide the attestation users desire, and a failure to improve the audit process. Educational reform and greater use of technology to reduce risk are presented as the means to obtain greater effectiveness and efficiency in the audit process. Changes to conventional historical financial statement presentation are needed to overcome the variety of previously discussed problems. A "synthetic financial reporting model" that incorporates prospective information and is based on the basic business plan is presented as a potential improvement.

In total the book provides readers with an experienced view and logical presentation of the history and development of the global accounting profession. The current state of affairs is presented as a profession in serious trouble and in dire need of a significant paradigm shift. A potential shortcoming of the book in some readers' view may be that problems are well developed but the solutions presented in the last three chapters are nebulous and largely dependent on major shifts in education, standard setting, and legislative reform. Greater use of technology such as the EDGAR system for electronic storage and retrieval of company information filed with the SEC is mentioned but falls short of discussing computer database opportunities such as Activity Based Costing (ABC) systems or more fully fledged events-based accounting systems that extend well beyond the traditional double-entry accounting model. In my opinion, the book serves an outstanding purpose in bringing readers to a better understanding of current problems in the accounting profession and stimulates thought on potential solutions. It should serve well as general background reading for practitioners and as a supplemental text for advanced accounting theory and auditing seminars.

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1992 FEE Analysis of European Accounting and Disclosure Practices *By Federation des Experts Comptables Europeens. Routledge, London, 1992, 244pp, $120.*

This is one of a series of surveys of accounting in Europe originally both conducted and published by the Federation des Experts Comptables Europeens (FEE) in Brussels. The series has been considerably extended in terms of both coverage and quality of production since being assumed by Routledge in 1991. This book is the second of four published since then and it offers a further, more detailed/analysis of some of the accounting and reporting practices of the companies originally analyzed in the 1991 FEE Survey.

This survey concentrates upon two questions that had not previously been addressed: first, is there any evidence of a big GAAP (Generally Accepted Accounting Principles) versus a small GAAP? and, second are there any systematic differences across various (non-financial) industries? The first of these two questions is particularly apposite and is likely to be of special interest in the context of Europe with many countries basing accounting and disclosure rules on size criteria (although it should be noted in this context that the Survey has excluded small companies, as defined in the Fourth Directive).

Given that the main emphasis of the survey is on the question of differences in accounting and disclosure practices across companies of different types, most of the survey concentrates upon exploring issues where it is believed that there may be differences between large and small companies While the survey makes no attempt to justify the areas considered, there are chapters on each of the following: availability of financial statements; changes in accounting policies; intangible assets; the valuation of fixed and current assets; off-balance sheet commitments, leases and complex financial instruments; pension provisions; and foreign currency translation.

There is a perhaps common fallacy that European Union (EU) accounting harmonization has succeeded in bringing accounting and reporting practices together. While the EU has undoubtedly succeeded in narrowing differences in accounting and has led to generally significantly improved levels of disclosure, a large number of differences still exist. These occur for three reasons. Certain areas of accounting have not been covered by Directives. Examples include foreign currency translation and leases. Other areas have been covered by Directives, but countries have implemented different options. The most obvious example of this is the valuation of tangible fixed assets. Finally, there are areas where the Directives might appear to be unambiguous, but have still been interpreted differently in different countries. A good example of this is changes in accounting policies. As discussed in Chapter 4 of the survey, the Fourth Directive states that "the opening balance sheet for each financial year must correspond to the closing balance sheet for the preceding year" (Article 31.1 (f)). In the United Kingdom, Ireland, Netherlands, and Denmark this has been interpreted liberally as meaning that it must be possible to reconcile the two balance sheets so that the opening balance sheet may be adjusted to take account of changes in accounting policies. In the rest of the EU a more literal definition has been taken. The two balance sheets must be identical so that any adjustments must

go through the current year income statement. While no single survey can cover all areas that might be interesting, one, undoubted strength of this survey is that the first part of it covers a fairly wide range of issues that include examples of all three types of item: those not included in Directives, those included with options, and those that are subject to various interpretations. Other areas of interest that have been omitted, most obviously accounting for groups, are included in later FEE surveys on the Seventh Directive (1993) and emerging areas (1994).

The second, and much briefer, part of the survey covers issues where there are likely to be industry differences. Here the sample is broken down into five industries: construction, manufacturing, pharmaceuticals and chemicals, services, and trading. Three issues are examined: long-term contracts; off-balance sheet commitments, and intangibles. While the survey finds some evidence to suggest that accounting differences do occur across industries with pharmaceutical and chemical companies more likely to capitalize research and development costs and service companies less likely to capitalize goodwill, most of the differences that emerge relate to differences in the incidence of the phenomena being considered rather than differences in their accounting treatment.

Given the likely differences in accounting and reporting practices, not only between different types of companies but also across different countries, the feature I liked most about this survey was the way in which each issue was introduced. Each chapter in Part One started by clearly indentifying the relevant regulations as laid down by the Fourth and Seventh Directives and International Accounting Standards (including, where relevant, E32 and subsequent exposure drafts). In addition, in those areas, such as changes in accounting policies, leases, pensions, and foreign currency translation, where significant differences exist in the regulations of different countries, the regulations in each country were also described. This is a particularly good feature of this survey as there still remains little in the way of adequate descriptions of accounting rules and regulations in individual European countries that are readily available and accessible to the interested non-specialist reader.

As with any survey, this one has a number of weaknesses as well as strengths. Some of the weaknesses are inevitable, as no one survey can achieve everything and as such this survey should clearly be assessed as only one of a number which together cover most of the material that is likely to be of interest to the average reader, whether academic or practitioner. However, a number of serious weaknesses also exist which are due solely to the way in which the survey was conducted and reported.

The survey was a large one, covering 441 companies, which would initially appear to be more than enough companies from which to draw reliable conclusions. However, the survey covers 15 countries (all of the EU except Portugal, plus the EFTA countries of Finland, Norway, Sweden, and Switzerland). In addition, the sample from each country is further split into two categories: listed and unlisted companies. Thus, the average size of each category is rather less than 15 companies. This would be enough companies to draw worthwhile conclusions and to see differences across both countries and types of companies if there were indeed 14 or 15 companies in each category and if the issues examined were reported upon by each company. Many of the issues are relevant to only a limited sample. For example, there is evidence of complex financial instruments in the case of only 52 companies. This means that in many

cases the relevant samples are just too small to allow very firm conclusions to be drawn.

This problem is compounded by the sample selection criteria employed. Several problems emerge here. First, the survey proposes to compare big versus small GAAP and defines these not in terms of the size of company but rather in terms of listing status, where listing is defined as "quoted in the official list of a recognized stock exchange". While the appropriateness of this categorization can be debated, the category of unlisted company contains a variety of different types of companies. It includes companies listed on secondary markets, public companies listed on no markets, and private companies. Thus it is likely the unlisted companies include a variety of different types of companies that act differently. If the proportions of each type of company vary across the 15 countries, comparisons across the countries will be problematical. A similar problem arises in that the sample includes companies with parents from different countries and even from outside Europe, so that the reader is left wondering whose accounting rules and practices these companies follow. However, in this context the biggest problem is that the companies are reporting on different things.

From the chapter on intangibles it appears that only slightly more than one-half of the companies reported consolidated information and the remaining replies relate to single entity statements. However, this distinction is ignored in answering all other questions, despite countries such as France having different rules for consolidated and single entity accounts. While more of a distinction between the two types of reports would have been extremely helpful, such a problem is perhaps inevitable given that the survey was based upon 1989 accounts. At this time the Seventh Directive was not implemented in all of Europe and, as such, this reflects the problems of doing research in this area –simply that things are changing very fast. However, this also illustrates the need for this type of survey and suggests that if only one survey is being bought then perhaps the more suitable one would be the 1993 FEE. Survey. Finally, the size of each category varies significantly. While there are obviously problems in deriving a sample and it would be unrealistic to expect equal numbers of listed and unlisted companies from each country, the sample contains a particularly wide range of category sizes. For example, the sample from Belgium contains five listed and 45 unlisted companies, while the sample from Greece instead contains 18 listed and 20 unlisted companies, a difference that cannot be explained by differences in listing behavior in the two countries. From Luxembourg, there is only one listed company which is separately reported in each of the numerous tables. Such differences in sample sizes make it extremely difficult to draw conclusions as to the significance of differences and this problem is compounded by the ways in which the information is presented.

Three sets of tables are presented: nine EU countries who had implemented the Fourth Directive two EU countries (Italy and Spain) who had implemented the Fourth Directive; and the four EFTA countries. The analysis moved from EU Group one, to EU Group two, to EFTA with little attempt to compare the results found for the three groups. In addition, each table reported only the raw numbers of companies rather than percentages. Given the very different sizes of each category of company this means that it is not generally obvious from the tables whether the results reported

are significant or not. Thus, while the survey is extensive and the tables provided are very detailed, the reader is left to do much of the work. In particular, the analysis provided tends to be very descriptive and the reader is left to answer most of the important "so what" questions for themselves. Having said this, some interesting results are found and it is likely that the prior beliefs of virtually all readers will prove to be at least partially incorrect. For example, I was surprised to find that the French sample showed one of the highest incidences of revaluation of plant and machinery despite the last tax-free revaluation being in 1976/77. Likewise, I had not realized that German conservatism went as far as translating assets at the lower of historical and current exchange rates.

In summary, the survey offers some useful insights into accounting and reporting in Europe. In particular, it contains a very useful analysis of relevant Directives, standards, and laws. However, as with any survey it becomes outdated, and if the interested reader wishes to purchase only one FEE survey, the later 1993 Survey on the Seventh Directive is likely to prove more useful. The survey though does provide some interesting insights into EU harmonization. It suggests that a big versus small GAAP exists in areas such as: the provision of financial statements and additional statements such as funds flow statements; changes in valuation policies; the use of current values; and off-balance sheet commitments (with, in this area, listed companies reporting less) in other areas country-specific differences still prevail. In particular, country-specific differences still appear to exist in the areas of changes in accounting policies, pension provisions, leases, foreign currencies, and the treatment of unrealized earnings. However, given the deficiencies in the sample selection process, the reader must be wary of placing too much emphasis upon many of the more detailed results found in the survey.

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[1]William A. Dymsza, Multinational Business Strategy (New York: McGraw-Hill, 1972), 49-53.
[2]Geoffrey Holmes, "Replacement Value Accounting." Accountancy (March 1972), 4-8.

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Lorenson, Leonard and Paul Rosenfield. "Management Information and Foreign Inflation." Journal of Accountancy, December 1974, 98-102.
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The International Journal of Accounting

External Environment, Culture, and Accounting Practice: A Preliminary Test of A General Model of International Accounting Development

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Key words: Classification; Environmental factors; Culture; International accounting

Abstract: *Previous theoretical frameworks of accounting development and change are synthesized in a general model of accounting system development. The general model is then subjected to a preliminary empirical test of its explanatory power by examining the relationship between countries' accounting practices and a set of environmental factors and cultural dimensions hypothesized as relevant elements of the model. The results lend support for the general model and provide insight into the importance of various factors in explaining existing accounting diversity worldwide.*

A considerable amount of literature has been written with regard to classification and explanation of the diversity of accounting practice across countries. This literature has emphasized the description of similarities and differences in accounting systems around the world. Despite the volume of literature, it is disappointing that, at the end of an extensive review, Wallace and Gernon[1] conclude that international accounting scholars lack theories and their research efforts lack rigor. This paper reports the results of a study which attempts to address these concerns.

The objectives of this study are twofold. First, the various attempts in the literature to develop a theoretical model of accounting development are synthesized to form a general model of international accounting development. The model describes a country's accounting development as a complex interaction among external environment, institutional structure, and culture. The second objective is to test whether relationships exist between accounting practice and elements of the model across a broad range of countries. This study introduces the use of hierarchical

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cluster analysis and canonical correlation analysis as tools for examining those relationships.

An understanding of how external environment, institutional structure, and cultural factors affect cross-national accounting diversity can be useful in efforts to reduce that diversity and enhance the comparability of accounting information worldwide. Empirical evidence on the relative importance of the different elements of the model can provide information as to where comparability efforts need to be intensified and also can provide insight as to the feasibility of reducing cross-national differences. If differences in accounting practice are significantly affected by national differences in institutional structure or culture, for example, then, to the extent that these model elements do not change (or change very slowly) over time, achieving comparability of accounting across countries might be extremely difficult.

This study represents a first step in examining empirically the interrelationship between environment, institutional structure, culture, and accounting. The results suggest that all three elements contribute to accounting diversity, but that on a global level institutional structure is of greatest importance.

Prior Research

The major questions that have been examined in international comparative financial accounting research are:

(1) What differences and similarities exist across national accounting systems (classification studies)?
(2) What factors explain these differences and similarities (environmental factors studies)?

Concerning both questions there has been a limited attempt to develop theories to explain how various factors affect national accounting systems.

Classification Studies

A number of studies have attempted to classify countries by accounting practices either inductively[2] or deductively.[3] The inductive studies primarily rely on factor analysis of survey data on financial reporting practices collected by Price Waterhouse.[4] The primary result of these studies has been to establish on an ongoing basis the continued diversity of financial reporting practices across countries.

The deductive studies have used deductive reasoning and personal knowledge of countries' accounting to develop classifications of accounting systems. These studies do not attempt to develop a formal theory but rather to arrive at an accurate description of what the world appears to be.

Environmental Factors Studies

The earliest attempts to explain cross-national differences in accounting consist of lists of environmental factors explaining often undefined differences in financial

reporting practices.[5] An extension of this approach is contained in a comprehensive framework which attempts to incorporate the Farmer and Richman model of business environments into an accounting context.[6] This model does not specify the weight of the factors influencing the accounting system or the level at which the influence is applied.

Classification/Environmental Factors Studies

A number of inductive classification studies[7] have attempted to use subsets of environmental variables to predict clusters of countries with similar accounting practices. These research efforts are useful in that they empirically establish some connection between the environment and accounting practices. These studies do not provide or test a theoretical framework which explains how environmental factors affect cross-national accounting diversity.

Theoretical Frameworks of Account Development

Schweikart[8] attempted to develop a theory of international accounting within the general framework of contingency theory. In his financial accounting model, the environment (education, economic, political, social, etc.) is seen as an external contingency on institutional structure (e.g., corporations, stock exchanges, and regulatory agencies) and decision makers (e.g., investors and lenders). The environment provides the types of institutions and these institutions, within a nation's cultural framework (availability filter), provide information to the public for decision-making purposes. Changes in the external environment may change the decision environment which causes decision-makers to put pressure on the institutional structure to provide more relevant information.

Harrison and McKinnon[9] developed a framework which attempts to explain the process of change in a society's accounting system. Change is analyzed in terms of four major elements: intrusive events, intra-systems activity, trans-systems activity, and cultural environment.

Within the model, accounting system change is the product of both the intrusion of events and the continuous interactions among the accounting system and its neighboring systems. Change occurs as a specific system identifies an intrusion, chooses to deal with that intrusion, and produces a series of response events based on its perception of suitable reactions. The response events occur after the subject systems and neighbouring system have made clear to each other what needs to be done and have determined a culturally appropriate way of achieving these objectives.

Robson[10] hypothesizes and demonstrates that the process of accounting change involves translating accounting needs into a form that permits discourse with other systems. This process, by moving accounting issues into the wider social, political, and economic realm, allows accounting to assess its role, select options for change, and, in turn, influence societal decisions. The ability to translate accounting to wider issues appears to be a cultural one.

Gray[11] extended Hofstede's[12] model of societal culture patterns to develop a model of culture, societal values, and the accounting subculture. In Hofstede's model,

societal values (culture) are determined by environmental factors (geographic, economic, demographic, etc.) modified by external influences (forces of nature, trade, conquest, etc.). Societal values, in turn, have institutional consequences in the form of legal system, political system, nature of capital markets, and so on. Gray extends this model to propose that the value systems or attitudes of accountants (accounting values) are related to and derived from societal values, and these accounting values, along with the institutional structure, affect the accounting system.

A General Model of Accounting Development

A synthesis of the various frameworks discussed above leads to a general model of accounting system development as presented in Exhibit 1. There are three elements which appear to determine a nation's accounting development: (1) the *external environment*, which affects both a society's culture and its institutional structure and provides external stimuli (intrusive events) that initiate change; (2) *cultural values,* which affect the institutional structure, and which govern the interactions between components of the institutional structure in evaluating suitable responses to external stimuli; and (3) the *institutional structure* within which responses are made. The importance of these three elements is echoed by Hopwood who notes that

> rather than being isolated and thereby a more influenceable technical phenomenon, accounting is now recognized as being something shaped by cultures, institutional configurations and socio-historical circumstances of the specific societies in which it emerged.[13]

In an international context, these elements vary across national borders and therefore can be expected to lead to differences in accounting systems across countries.

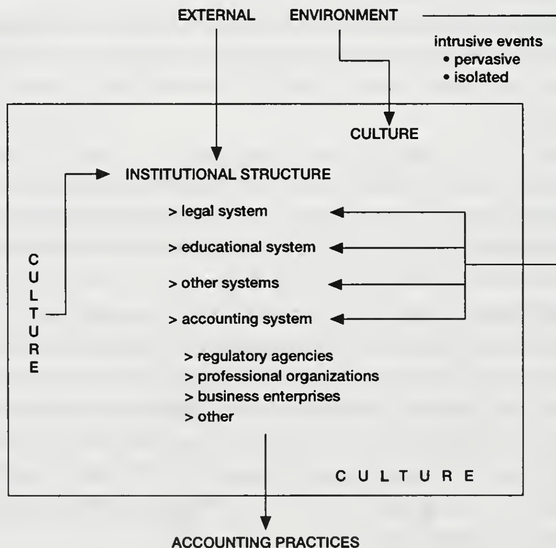

Exhibit 1. A general model of accounting development.

Although culture appears to be depicted in the model as being wholly extraneous to the institutional structure, this is not the case. Culture permeates the various systems that constitute the institutional structure, impacting on accounting practice through norms and values held by members of the accounting system and norms and values held by members of other systems with which the accounting system interacts. Among other things these norms and values influence the importance (weighting) attached to intrusive events as they disrupt individual systems. This model is based on the following propositions:

(1) There exists in every country an institutional structure comprised of various systems (accounting, legal, educational, etc.).
(2) The accounting system, in turn, is comprised of various subsystems (regulatory agencies, professional organizations, corporations, etc.). The accounting practices followed within a country derive from the accounting system.
(3) A society's institutional structure, including the accounting system, is determined by the external environment and cultural norms and values.
(4) A society's cultural norms and values, in turn, are influenced by the external environment.
(5) The external environment creates intrusive events which act as stimuli for action by the institutional structure. Each intrusion is evaluated by a member or members of the set of systems within society. Cultural norms and values affect the importance attached to a particular intrusive event.
(6) If an intrusive event relevant to accounting is not initially sourced within the accounting system it will be transmitted to the accounting system by a neighbouring system.
(7) The accounting subsystems interact to develop a response to the intrusive event. Cultural norms and values affect the interaction among the various subsystems.
(8) The accounting system does not act in a vacuum but interacts with other systems in developing culturally appropriate responses to intrusive events. Culture affects the interaction among the various systems.
(9) Intrusive events are conceptualized in two categories: (i) pervasive intrusions, such as colonization, EC Directives, inflation, and change from a planned to a market economy, which require extensive changes in the financial reporting system; and (ii) isolated intrusions, such as foreign currency fluctuations, banking scandals, and rising health care costs, which require changes in individual reporting practices only.

These propositions lead to a number of interesting avenues of research, including examination of such questions as:

(1) How does the external environment affect the institutional structure, especially the accounting component?
(2) How does culture affect the institutional structure, especially the accounting component?
(3) With which neighboring systems does the accounting system interact, in what manner, and how does culture affect this interaction?

(4) How does culture affect the interaction among the subsystems within the accounting system?
(5) How does culture affect the weight attached to a specific intrusive event?
(6) What are the past intrusive events (either pervasive or isolated) that are embodied in current accounting practice?

Case studies of individual countries would appear to be a fruitful method to address these questions.

Before embarking on research to address such questions, however, it is necessary to test whether the model is generally valid in a cross-national context. This implies testing whether there exists a relationship between the external environment and accounting practice, between the institutional structure and accounting practice, and between cultural values and accounting practice across a broad range of countries. A logical hypothesis to be developed from the model is that if the external environment, institutional structure, and/or cultural norms and values differ across countries, then it is likely that existing accounting practices will differ across countries as well. The corollary is that countries with similar environments and cultures should have similar accounting practices. The remainder of this paper reports on a study designed to address this general research question.

A Preliminary Test of the General Model

To test the general model, it is necessary to identify elements of the external environment likely to affect accounting either through their impact on the institutional structure or through intrusive events and identify the cultural values that shape the institutional structure and guide the interaction of the elements within the structure.

External Environment

In terms of the model, the external environment encompasses everything in society other than the institutional structure that society has devised to regulate itself and the cultural norms and values shared by members of society. Thus, the external environment encompasses diverse influences, such as economic conditions, geography, colonization, climate, technology, disease, relationships with other societies, and past history.

The external environment is seen as influencing a nation's accounting system in two ways: indirectly through its impact on the institutional structure and directly through the emanation of intrusive events which disrupt the accounting or neighboring systems. Some aspects of the external environment do not affect accounting or do so in such an indirect manner that the link is no longer discernible. This would appear to be true for such factors as geography and climate.

Some environmental factors may influence accounting only indirectly through their impact on those systems within the institutional structure with which the accounting system interacts. It may be no longer possible to identify these factors. For example, the type of legal system used within a country might be the result of

historical factors, relations with other countries, colonization, and so on. To test the proposition that the external environment affects accounting indirectly, it becomes necessary to examine whether the form of the institutional system (which is a result of indeterminable external influences) affects accounting practice.

Other environmental factors may influence accounting both directly and indirectly. For example, a country's level of economic development is likely to have an impact on the institutional structure within that country and at the same time be the source of ongoing intrusive events which elicit response from the accounting system.

Finally, there are environmental factors that might influence accounting directly (intrusive events) without affecting the institutional structure. Examples might be inflation or the collapse of the system of fixed exchange rates.

Numerous environmental factors that influence accounting practice have been hypothesized in the literature.[14] In a review of this literature, Meek and Saudagaran[15] indicate that there is general agreement (without empirical support) that the following environmental factors influence accounting:

(1) legal system;
(2) nature of the relationship between business enterprises and providers of capital;
(3) tax laws;
(4) inflation levels; and
(5) political and economic ties.

The current study examines six factors; the first four enumerated above plus:

(5) level of education; and
(6) level of economic development.

These last two factors were originally suggested by Mueller[16] in an accounting context.

The number of factors examined in this study was limited to six to ensure a reasonable ratio of observations to independent variables in subsequent statistical testing. The factor "political and economic ties" was not examined because of difficulty in developing an objective, meaningful scale usable in testing.

Legal System

The legal system is a part of the institutional framework with which the accounting system is very likely to interact. Legal system (code vs. common law) influences the way in which accounting rules are promulgated (legislated vs. non-legislated), which in turn could influence the nature of the rules themselves.[17] To test the relationship between legal system (LEGAL) and accounting, countries are coded on a binary scale according to a classification provided by David and Brierley.[18]

Relationship Between Business and Providers of Capital

Meek and Saudagaran[19] indicate that this factor relates to sources of financing, whether the group of capital providers is large and the level of development and sophistication of capital markets. These factors can be viewed as elements of the institutional structure with which the accounting system interacts, as well as intrusive events to which the accounting system must react.

A strong equity market with a diverse group of shareholders has generally been viewed as conducive to the production of sophisticated information. When banks dominate as a source of financing, accounting assumes a creditor protection orientation and disclosure levels are lower.

To test the relationship between this variable and accounting, market capitalization as a percentage of GNP (MC) and trading volume as a percentage of market capitalization (TVOMC) were determined for each country. Data on mean level of market capitalization and trading volume were gathered from the International Finance Corporation's *Emerging Stock Markets Factbook.* GNP data were obtained from the World Bank's *World Development Report* and the International Monetary Fund's *International Financial Statistics.*

Tax Laws

In many countries, tax laws effectively determine accounting practice by requiring companies to book revenues and expenses in order to claim them for tax purposes.[20] In other countries, tax accounting and financial accounting are separate. In countries in which a strong link between taxation and accounting exists, companies are likely to adopt very conservative accounting practices so as to minimize their tax liabilities. This is likely to be especially true in countries with relatively high rates of taxation. Taxation, in general, can be seen as an intrusion on the accounting system with a potentially significant impact on accounting practice.

To test whether taxation is an intrusive event that has significantly impacted international accounting, this study examines the relationship between marginal tax rates (MTAX) and accounting practice. Data on corporate tax rates were obtained from Price Waterhouse's *Corporate Taxes: A Worldwide Summary.*

Inflation

Inflation has been one of the most intrusive economic challenges since the Great Depression. Inflation (INF) was included in the study by determining the mean annual rate of inflation over the period 1980–1987 from data provided in *World Development Report* and *International Financial Statistics.*

Level of Education

It is often suggested that the level of education in a country or in its accounting profession affects accounting practice.[21] Level of education can be seen as an intrusion on the accounting system as accounting practices are developed within the constraints of the educational environment. The hypothesis is that a simple educational environment prevents development of sophisticated accounting practices. With regard to managerial accounting information, Schweikart[22] found that a stronger educational environment was associated with less relevance for formal reports and more relevance for informal reports. In this study, the percentage of the population with tertiary education as reported in the United Nations' *UNESCO Statistical Yearbook* or the International Labor Organization's *Yearbook of ILO Statistics* was used to measure a country's level of education (EDUC).

Level of Economic Development

Mueller[23] suggested that stage of economic development, type of economy, and growth pattern of an economy can exert an impact on a country's accounting practices. The stage of development affects the type of business transactions conducted in a country and the type of economy determines which transactions are more prevalent, each of which is an intrusion on the accounting system. Cooke and Wallace[24] have found that a simple dichotomous variable based on level of economic development (developed/underdeveloped) absorbs the explanatory power of several economic variables considered jointly in explaining differences in countries' accounting systems. For this study, a country's level of development (LDEV) was scored on a binary scale (developed/underdeveloped) based upon classifications provided in *World Development Report.*

Culture

Culture can been defined as "the collective programming of the mind which distinguishes the members of one group or category of people from another."[25] While it affects many levels of society, it is assumed to exist primarily at a regional or national level.

Based upon an extensive cross-national survey, Hofstede[26] identified four underlying dimensions of societal value along which countries can be positioned: individualism, power distance, uncertainty avoidance, and masculinity.

Gray[27] suggests that these cultural dimensions may be useful in explaining international differences in accounting practices and develops two hypotheses which posit a directional relationship between financial reporting practices and culture. These are:

> The higher a country ranks in terms of uncertainty avoidance and the lower it ranks in terms of individualism and masculinity then the more likely it is to rank highly in terms of conservatism.
>
> The higher a country ranks in terms of uncertainty avoidance and power distance and the lower it ranks in terms of individualism and masculinity then the more likely it is to rank highly in terms of secrecy.[28]

Conservatism is defined as a cautious approach to income measurement and secrecy as a preference for the disclosure of business information only to those closely involved with the business.

To test the relationship between culture and accounting practice proposed in the general model, culture is operationalized along Hofstede's four dimensions: individualism (INDIV), power distance (POWER), uncertainty avoidance (UNCERT), and masculinity (MASC). Scores for these variables were obtained from Hofstede.[29] Regional scores for West Africa, East Africa, and the Arab world were applied to those countries included in the study from those geographic areas.

Accounting Practices

To examine the relationship between accounting and the independent variables identified above, a practitioner survey was conducted to obtain data on accounting practices in a broad range of countries. A survey approach was used, because it

allows data to be gathered on a broader range of both disclosure and measurement practices than is possible using annual reports or international accounting summaries.

Based upon reviews by an expert panel of accounting practitioners, academicians, and financial analysts, 100 accounting issues (55 disclosure and 45 measurement items) were selected for inclusion in the survey. To facilitate input into statistical analysis, respondents were asked to indicate the percentage of companies in their country following a particular practice. To avoid the criticism of subjectivity, multiple respondents within the public accounting profession were contacted in each country with interjudge consistency used as the criterion for inclusion of respondents and countries in the database. Only those countries for which at least two responses that were not significantly different were obtained were included in the study. The resultant database contains information from 174 respondents in 50 countries on the utilization of 100 accounting practices as at January 1, 1990.

To develop a measure of national accounting practice that can be used as a dependent variable in a statistical analysis, the raw data on 100 accounting practices were input into cluster analysis. A country's membership in a particular cluster was used as the dependent variable in a test of the relationship between the independent variables and accounting practice. Because Nobes[30] suggests a multi-level structure to accounting diversity, hierarchical cluster analysis was used as the tool for developing the dependent variable. Algorithm selection, heuristics for determining optimal solutions, and validation techniques as detailed in Punj and Stewart[11] were employed.

Results

Cluster Analysis

Significant solutions were determined by examining pseudo F statistics for peaks and pseudo t^2 statistics for breaks or rapid drops in value. The strongest solution occurs at two clusters with weaker solutions at six and nine clusters. The hierarchy and cluster membership is presented in Exhibit 2. The clusters emerged as broadly consistent with previous inductive literature, especially Nobes.[32] For example, at the nine cluster level, only three countries are classified differently from Nobes' classification of 14 developed countries.[33]

The two cluster solution shown in Exhibit 2 is broadly consistent with the two "classes" of accounting system hypothesized in Nobes. Accordingly, cluster A1 is labeled "micro-based" and cluster A2 is labeled "macro-uniform" per Nobes (1983). Significant differences (at the 0.05 level) in mean score between clusters A1 and A2 exist for 65 out of 100 financial reporting issues.

The hierarchical nature of the cluster solutions suggests that there might be environmental factors and cultural dimensions of universal importance which cause national accounting systems to fall into one of two major classes. There then appear to be factors of secondary and tertiary importance which cause the two major classes of accounting to subdivide creating the six and nine cluster solutions.

For descriptive purposes only, financial reporting practices were categorized as measurement or disclosure and mean scores were computed for each cluster. High

<table>
<tr><th rowspan="2">Country</th><th colspan="3">Number of Clusters</th></tr>
<tr><th>Two</th><th>Six</th><th>Nine</th></tr>
<tr><td>Japan</td><td rowspan="24">A2 Macro uniform</td><td>B6</td><td>C9</td></tr>
<tr><td>Germany</td><td>B5</td><td>C8</td></tr>
<tr><td>Finland</td><td rowspan="2">B4</td><td rowspan="2">C7</td></tr>
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<tr><td>Liberia</td></tr>
<tr><td>Thailand</td></tr>
<tr><td>Panama</td></tr>
<tr><td>Portugal</td><td rowspan="8">C5</td></tr>
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<tr><td>Zimbabwe</td></tr>
<tr><td>Hong Kong</td></tr>
<tr><td>Singapore</td></tr>
<tr><td>Namibia</td></tr>
<tr><td>Ireland</td></tr>
<tr><td>United Kingdom</td></tr>
<tr><td>Zambia</td></tr>
<tr><td>Australia</td></tr>
<tr><td>Papua N. Guinea</td></tr>
<tr><td>New Zealand</td></tr>
<tr><td>Trinidad</td></tr>
<tr><td>Nigeria</td></tr>
<tr><td>Sri Lanka</td></tr>
<tr><td>Botswana</td></tr>
<tr><td>Jamaica</td></tr>
<tr><td>Philippines</td></tr>
<tr><td>Taiwan</td></tr>
<tr><td>Netherlands</td></tr>
<tr><td>Neth. Antilles</td></tr>
<tr><td>Luxembourg</td></tr>
<tr><td>Bermuda</td><td rowspan="4">C1</td></tr>
<tr><td>Israel</td></tr>
<tr><td>Canada</td></tr>
<tr><td>United States</td></tr>
</table>

Exhibit 2. Results of hierarchical cluster analysis.

scores indicate relatively complex, less-conservative measurement practices and relatively high disclosure. Exhibit 3, which presents a plot of the scores at the two and nine cluster levels, suggests a strong inverse relationship between level of disclosure and conservatism.

Canonical Correlation Analysis

Countries coded on a 0,1 scale as being non-member/member of a particular cluster served as dependent variables. The independent variables consisted of country scores on the six environmental factors and the four cultural variables described earlier. Because the dependent and several independent variables in this study were non-metric, canonical correlation analysis (Cancorr) was used to examine the relationships among them. In Cancorr, linear combinations (canonical variates) are derived for each of a set of independent and dependent variables so that the correlation between the two variates is maximized. A number of pairs of variates (canonical functions) are extracted. Each canonical function provides insight into which independent variables are associated with the various stages in the development of the hierarchy of accounting systems.

Three criteria were used in deciding which canonical functions to interpret: (1) statistical significance of the squared canonical correlation, (2) magnitude of the

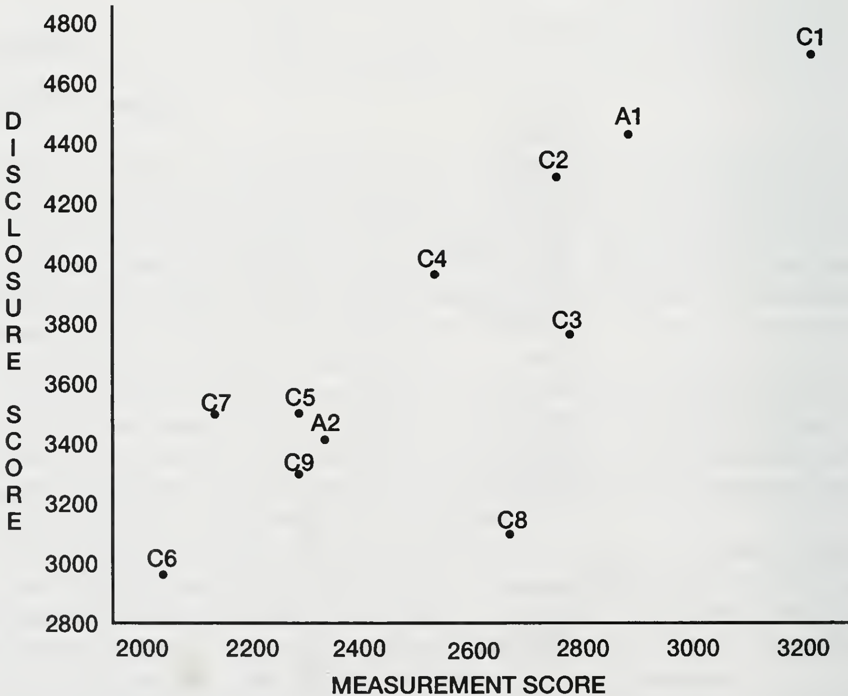

Exhibit 3. Plot of disclosure and measurement scores by cluster.

canonical correlation, and (3) a redundancy index analogous to R^2.[34] Cross loadings were used to interpret the canonical variates. Cross loadings directly correlate the original dependent variables with the independent canonical variate and, when squared, indicate the total percentage of variation in group membership explained by each independent variate. The relative power of each independent variable within the independent variate is contained in the canonical loadings on that variate. Loadings of 0.40 or greater were used in interpreting the canonical variate of the independent variables. Separate Cancorr solutions were developed for the two, six, and nine cluster solutions.

Two Cluster Solution

Using the two cluster solution to define the dependent variable, one canonical function was significant at $\alpha = 0.05$. The canonical correlation coefficient was 0.9163. The redundancy index was 0.8388, which indicates that the independent variate explained 83.88 percent of the variance in the country clusters.

Panel A in Table 1 shows that the cross loadings for the dependent variables A1 (micro-based cluster) and A2 (macro-uniform cluster) were 0.9158 and –0.9158, respectively, indicating that the independent variate explains approximately 83 percent of the variance for both clusters of countries. The independent variate FUNC1 was, dominated by LEGAL (–0.9271), with significant loadings on UNCERT (–0.6664), and MC (0.5316). Given the signs of the cross loadings and the coding scheme used for the independent variables, cluster A1 countries can be characterized as being

Table 1. Canonical structure at the two cluster level

A. Cross loadings on variates of significant functions
Correlations between the clusters of countries and the canonical variates of the independent variables

	Cluster	FUNC1
Macro-based	A1	0.9158
Macro-uniform	A2	–0.9158

B. Canonical loadings on variates on significant functions
Correlations between the independent variables and their canonical variates

	FUNC1
LEGAL	–0.9271
EDUC	0.0100
INF	–0.2227
LDEV	0.0765
MTAX	–0.0410
MC	0.5316
TVOMC	0.1914
UNCERT	–0.6664
POWER	–0.1610
INDIV	0.2110
MASC	0.2664

predominantly common law countries with a lower score on the uncertainty avoidance dimension of culture and higher market capitalization.

Referring to Exhibit 3 it can be seen that cluster A1 has a higher level of disclosure which is consistent with a lower level of uncertainty avoidance and greater reliance on equity investors as providers of capital. Cluster A1 also has a higher measurement score, consistent with Gray's hypothesis that low uncertainty avoidance groups tend to be less conservative.

Six Cluster Solution

The Cancorr solution at the six cluster level explains the breakup of the macro-uniform group, with the separation of Sweden/Finland (B4), Germany (B5), Japan (B6), and a Latin American (B2) cluster from a Core Macro group (B3). Three canonical functions are significant at $\alpha = 05$. The canonical correlations of these three functions are 0.9216, 0.8028, and 0.6982, respectively. The redundancy indices are 0.2229, 0.1242, and 0.0878. The independent variates cumulatively explain 43.5 percent of the variance in the country clusters.

Panel A in Table 2 shows the cross loadings for the dependent variable. The first function (FUNC1) discriminates between the micro-based group of countries (B1) and the various macro-uniform groups (B2–B6). As in the two cluster solution, the significant independent variables on FUNC1 are LEGAL, UNCERT, and MC.

Table 2. Canonical structure at the six cluster level

A. Cross loadings on variates on significant functions
Correlations between the clusters of countries and the canonical variates of the independent variables

	Cluster	FUNC1	FUNC2	FUNC3
Micro-based	B1	0.9049	0.1214	0.0053
Latin American	B2	–0.3901	0.6358	0.2363
Core Macro	B3	–0.5947	–0.2855	–0.2348
Sweden/Finland	B4	–0.0897	–0.1571	–0.3137
Germany	B5	–0.0138	–0.3012	0.0981
Japan	B6	–0.0663	–0.3562	0.5550

B. Canonical loadings on significant variates
Correlations between the independent variables and their canonical variates

	FUNC1	FUNC2	FUNC3
LEGAL	–0.9033	–0.1506	0.0220
EDUC	0.0187	0.0642	0.0047
INF	–0.3074	0.6935	0.3097
LDEV	0.1664	–0.5064	–0.0748
MTAX	0.0272	–0.3437	0.1792
MC	0.5689	–0.2238	0.4290
TVOMC	0.2380	–0.1262	0.3216
UNCERT	–0.6929	0.0400	0.3718
POWER	–0.2092	0.0905	0.0486
INDIV	0.2666	–0.2470	–0.1582
MASC	0.2767	–0.1680	0.7514

The second function (FUNC2) appears to discriminate the Latin American group (B2) from the other macro-uniform clusters. The independent variables with significant loadings on FUNC2 are, INF (0. 6935) and LDEV (−0.5064). This indicates that the Latin American group of countries generally has higher inflation and a lower level of economic development than the other macro-uniform groups.

The third significant canonical function (FUNC3) primarily appears to discriminate Japan (B6) from the other macro-uniform groups especially B4 (Sweden/Finland). The independent variate was dominated by MASC (0.7514) and MC (0.4290), indicating that Japan has a higher level of masculinity and higher level of market capitalization than the other macro groups. This result is somewhat unexpected as Gray associates higher masculinity with higher disclosure and less conservatism. Yet, Exhibit 3 shows that Japan (C9) has a lower measurement and lower disclosure score than most of the other macro-uniform clusters (C3–C8).

Nine Cluster Solution

Four canonical functions are significant at the nine cluster level. The canonical correlation coefficients were 0.9311, 0.8671, 0.7695, and 0.7086, respectively. The redundancy index was 0.1206 for Function 1, 0.0961 for Function 2, 0.0713 for Function 3, and 0.0643 for Function 4, indicating that the independent variates cumulatively explained 34.2 percent of the variance in the country clusters.

The cross loadings in Table 3 (Panel A) show that FUNC 1 discriminates between the micro-based clusters, Cl and C2, and the macro-uniform clusters. The loadings on the independent variate were once again dominated by the variables LEGAL, UNCERT, and MC.

The second function appears to separate Latin America (C4) from the other macro-uniform clusters much as occurred in the six cluster solution. The significant independent variables in this second function are again INF and LDEV.

The third function discriminates Japan (C9) from the other macro-uniform groups as was the case in the six cluster solution. Once again, the significant independent variables on FUNC3 are MASC and MC.

The fourth function primarily distinguishes cluster C6 from the Latin American group (C4). The significant independent variables on FUNC4 are EDUC, INF, and Power. Thus, cluster C6 has a lower level of tertiary education, lower inflation and highest power distance than the Latin America group. Exhibit 3 shows that clusters C6 and C4 represent opposite poles within the macro-uniform class of accounting systems.

While not significant at normal levels ($\alpha = 0.14$), FUNC5 explains a further 5 percent of the overall variance in country clusters and helps explain the separation of the Sweden/Finland (C7) group from the other macro-uniform groups. The significant independent variables on FUNC5 are cultural (UNCERT and MASC). Sweden and Finland are low masculinity, low uncertainty avoidance countries. Exhibit 3 shows that group C7 (Sweden/Finland) has the second lowest measurement score but has a relatively high level of disclosure which is consistent with low uncertainty avoidance. The key issues of disclosure are social with Sweden/Finland exhibiting a propensity to provide pension and shareholder disclosures. Disclosure of this type of information would appear to be consistent with a low-masculinity society.

Table 3. Canonical structure at the nine cluster level

A. Cross loadings on variates of significant function correlations between the cluster of countries and the canonical variates of the independent variables

	Cluster	FUNC1	FUNC2	FUNC3	FUNC4	FUNC5
USA/Canada	C1	0.4875	−0.1116	−0.3258	0.3258	0.2671
British	C2	0.6414	0.3181	0.2308	−0.2565	−0.1878
Costa Rica	C3	−0.1713	0.0837	−0.3266	0.0270	0.0960
Latin American	C4	−0.3839	0.4951	0.2157	0.4480	−0.0468
European	C5	−0.3290	−0.4583	−0.0874	0.0366	−0.0771
Arab/Hybrid	C6	−0.3754	0.1487	−0.2158	−0.3822	0.2391
Sweden/Finland	C7	−0.0637	−0.2940	−0.1114	0.0402	−0.4467
Germany	C8	0.0367	−0.3147	0.1787	0.2200	0.0995
Japan	C9	−0.0717	−0.2854	0.4802	−0.0879	0.2595

B. Canonical loadings on significant variates
Correlations between the independent variables and their canonical variates

	FUNC1	FUNC2	FUNC3	FUNC4	FUNC5
LEGAL	−0.8689	−0.2950	0.0092	0.1632	−0.0299
EDUC	0.1507	−0.1999	−0.2797	0.6010	0.1740
INF	−0.3410	0.5073	0.2419	0.6738	−0.1224
LDEV	0.2774	−0.6613	0.0071	0.2075	−0.0935
MTAX	0.0776	−0.4641	0.2650	0.1885	−0.1751
MC	0.5084	−0.8865	0.5367	−0.2350	−0.0840
TVOMC	0.2673	−0.1389	0.3480	0.3774	0.1287
UNCERT	−0.6315	−0.0917	−0.0229	0.2876	0.5325
POWER	−0.3054	0.3977	0.1675	−0.4610	0.1857
MASC	0.2487	0.1020	0.6115	−0.0458	0.6526
INDIV	0.3471	−0.3341	−0.0352	0.2423	−0.1278

The overall explanatory power at the nine cluster level can be seen by examining the squared multiple correlations provided in Table 4. For example, Panel A shows that the first five canonical functions explain 66.7 percent of the variance in cluster C2 (British). These five functions explain more than 30 percent of the variance in seven of the nine clusters. Panel B shows that the independent variables with the greatest explanatory power after five functions are: legal system (LEGAL), level of inflation (INF), uncertainty avoidance (UNCERT), masculinity (MASC), market capitalization (MC), and level of economic development (LDEV).

Summary and Conclusions

This study presented and tested a model of accounting development in which accounting practice is hypothesized as being the result of the complex interaction among a society's external environment, cultural norms and values, and institutional structures. Variables related to each of the three elements of the model were found to have significant explanatory power in discriminating across countries. Thus, the results lend support for the general model.

The analysis was not helpful in explaining some of the emergent clusters, most notably Germany. Assuming the model's general validity, there are obviously other

Table 4. Squared cross loadings on significant variates nine cluster level

A. Squared multiple correlation between the clusters of countries ad the first five canonical variates of the independent variables

	Cluster	1	2	3	4	5
USA/Canada	C1	0.2376	0.2501	0.3562	0.4624	0.5337
British	C2	0.4114	0.5126	0.5658	0.6316	0.6669
Costa Rica	C3	0.0293	0.0363	0.1430	0.1437	0.1529
Latin American	C4	0.1474	0.3925	0.4391	0.6398	0.6420
European	C5	0.1083	0.3183	0.3260	0.3273	0.3332
Arab/Hybrid	C6	0.1409	0.1630	0.2096	0.3557	0.4129
Sweden/Finland	C7	0.0041	0.0905	0.1029	0.1045	0.3041
Germany	C8	0.0013	0.1004	0.1323	0.1807	0.1906
Japan	C9	0.0051	0.0866	0.3172	0.3249	0.3922

B. Squared multiple correlations between the independent variables and the first five canonical variates of the clusters of countries

	1	2	3	4	5
LEGAL	0.6546	0.7200	0.7200	0.7334	0.7338
EDUC	0.0197	0.0497	0.0960	0.2774	0.2900
INF	0.1008	0.2943	0.3290	0.5569	0.5632
LDEV	0.0667	0.3955	0.3956	0.4172	0.4208
MTAX	0.0052	0.1672	0.2087	0.2266	0.2394
MC	0.2241	0.2297	0.4003	0.4291	0.4310
TVOMC	0.0620	0.0765	0.1482	0.2197	0.2266
UNCERT	0.3458	0.3521	0.3524	0.3939	0.5124
POWER	0.0809	0.1998	0.2161	0.3228	0.3372
MASC	0.0536	0.615	0.2829	0.2804	0.4618
INDIV	0.1045	0.1884	0.1891	0.2186	0.2254

environmental factors and cultural dimensions that explain the complete range of international accounting diversity.

Perhaps the most important finding of this study is the emergence of two major classes of accounting systems whose country members differ significantly on the basis of type of legal system. If differences between these two classes of accounting are rooted in differences in institutional structure, the power that intrusive events might have to cause change in accounting practice is likely to be mitigated and comparability of accounting across classes might be extremely difficult to achieve.

In attempting to reduce differences between these two classes of accounting system, the immediate relevant task might be to understand better how a country's legal system and accounting system relate to one another. The answer to this and other questions exploring the interrelationship between institutional structure, culture, external environment, and accounting might prove fruitful in understanding and ultimately reducing accounting diversity worldwide.

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Market Value Accounting Standards in the United States and their Significance for the Global Banking Industry

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Key words: Market value accounting; Global banking industry; Financial reporting; Standard-setting bodies

Abstract: *During the past decade, the credibility and usefulness of financial reporting of financial institutions in the United States have been subject to serious criticism and challenges. Critics have argued that existing accounting standards contributed to the savings and loan debacle of the late 1980s and the banking problems in the early 1990s. Market value accounting (MVA) has been proposed as a reform to ensure that financial statements are useful, relevant, and reliable and, accordingly, to prevent future crisis in the banking industry. The Securities and Exchange Commission is actively encouraging the accounting profession in the United States to shift away from an accounting system based on historical costs to a current market value system. The primary purposes of this study are: (1) to discuss the current initiatives in the United States in setting MVA standards for the banking industry; and (2) to examine the relevance of these initiatives for the global banking industry. Current accounting standards on MVA in the United States mandate a piecemeal approach to the adoption of MVA for only certain investments in debt and equity securities for financial institutions. The results of our survey reveal that the common perception of likely financial and managerial impacts of moving towards MVA appear to be negative. The results also indicate that the surveyed bankers' perceptions regarding desirability, feasibility, relevance, and adoption of MVA in the United States do not appear to be positive. Perhaps other countries should consider the current accounting standards on MVA in the United States and their perceived financial and managerial impacts on financial reporting in establishing new accounting standards for their own banks and for the global banking community.*

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During the past decade, the credibility and usefulness of historical-based financial reports in the United States have been challenged. Critics have argued that the use of historical cost system (HCS) and related accounting standards contributed to the savings and loan crisis of the 1980s and recent US banking problems (Morris and Gordon, 1991; Shaffer, 1992; Sutton and Johnson, 1993). Market value accounting (MVA) has been proposed as a reform to provide better assurance that financial statements are useful, relevant, and reliable. Under existing HCS most assets and liabilities are reported at acquisition price, whereas MVA requires that assets and liabilities be revalued to reflect fair market value.

The Securities and Exchange Commission (SEC) has been proactive in urging the accounting profession in the United States to shift from an accounting system based on historical costs to an MVA system. The Financial Accounting Standards Board (FASB) has been encouraged and prodded by the SEC and external users of financial reports to consider seriously MVA for financial reporting. The primary purposes of this paper are: (1) to discuss the current accounting pronouncements related to adoption of MVA for financial reporting; (2) to present results of a survey conducted to assess the feasibility, relevance, adoptability, and applicability of MVA for financial reporting in the United States and (3) to examine the relevance of the accounting standards on MVA for the global banking industry.

Current Pronouncements on Market Value Accounting

Recently, several regulatory and standard-setting bodies in the United States have attempted to establish guidelines for the adoption of MVA for financial reporting. Among these bodies are the SEC, the US Treasury Department, the FASB, and the Internal Revenue Service (IRS) (Johnson, 1993). These guidelines suggest four approaches to the implementation of MVA. These approaches are: (1) market value disclosures; (2) MVA for certain assets; (3) piecemeal adoption of MVA for selected liabilities and assets; and (4) comprehensive MVA.

A market value disclosure approach suggests that assets and liabilities be recorded at amortized historical costs but with disclosures of their current fair market value in the footnotes to financial statements. This approach is not viewed as an acceptable method because footnote disclosures are interpreted as providing supplementary information to reported financial statements. The second approach requires MVA for certain types of assets, but not related liabilities. The use of this option may result in misleading financial reporting because it does not simultaneously provide market value information for both sides of the balance sheet. The piecemeal approach adopts MVA for selected categories of liabilities and assets. Whereas this approach is an improvement over the first two approaches, it may be both too subjective and complex to link certain assets to the related liabilities used to finance them. The comprehensive MVA approach for all financial items is the accounting method that in theory eliminates both the subjectivity of selecting only certain assets and liabilities as well as the difficulty of linking liabilities to specific assets, where appropriate.

The Securities and Exchange Commission

The SEC has long advocated the adoption of MVA but has yet to make it a required method for companies under its jurisdiction. In November 1991, the SEC held the first Market Value Accounting Conference and invited leaders from business, government, the accounting profession, academia, and investors: (1) to discuss the feasibility, relevance, applicability, and adoptability of MVA for financial reporting; and (2) to explore how the use of more relevant and accurate MVA standards would enhance the credibility and quality of financial reporting. This conference was an important step toward establishing MVA standards for financial reporting. The SEC suggests that the securities portfolio and related liabilities (bonds payable) of all companies under its jurisdiction, including financial institutions, should be marked to market instead of being reported in the balance sheet at historical cost. The SEC recommends that any changes in the market value of assets or liabilities should either be reflected in the determination of net income or be reported as a separate component of owner's equity.

US Treasury Department

In 1989, the Treasury Department was required by the Financial Institutions Reform, Recovery and Enforcement Act (FIRREA) to assess the feasibility of adopting MVA for financial institutions (Department of the Treasury, 1991). After two years of study the Treasury, in 1991, concluded that the adoption of comprehensive MVA, though advantageous, was not currently feasible primarily because the cost of implementing MVA would be too costly for the smaller institutions. The Treasury Department viewpoint is that MVA would better reflect the economic reality and performance of financial institutions by discouraging "gains trading" resulted from selling only appreciated assets. However, it concluded that the adoption of comprehensive MVA would be premature and, accordingly, supplemental disclosures of market value information would serve the users of financial statements much better. The Treasury Department favors a disclosure approach to MVA, in either footnotes to the financial statements or memoranda items to shareholders or regulatory reports.

The Financial Accounting Standards Board

The FASB during the past several years has been under pressure from the SEC to require market value accounting for financial reporting. The FASB has indicated that historical cost accounting may no longer be appropriate in all circumstances. While the FASB has not directly confronted market value accounting versus the historical cost system, its current pronouncements clearly indicate that it is moving in this direction. The FASB has developed a three-phase project on MVA: (1) disclosures of financial instruments; (2) recognition and measurement; and (3) financial instruments with characteristics of debt and equity.

The FASB issued Statement of Financial Accounting Standards (SFAS) No. 105, entitled "Disclosure of Information about Financial Instruments with Off-balance-

sheet Risk and Financial Instruments with Concentrations of Credit Risk", in March 1990. It requires entities that have such financial instruments to disclose the nature and terms of the instruments and related credit and market risks. In December 1991, the FASB issued SFAS No. 107, "Disclosure about Fair Value of Financial Instruments". SFAS No. 107 requires all entities, including commercial banks, to disclose the fair value of all their financial instruments, both assets and liabilities, either in the body of the financial statements or in the accompanying footnotes with the methods and assumptions used to arrive at the market values for fiscal years ending after December 15, 1992. The adoption of SFAS Nos. 105 and 107 completed the first phase of the FASB's MVA project.

In the second phase of the project, the FASB examines whether market value is appropriate for measurement and recognition as well. In November 1991, the FASB issued a Discussion Memorandum (DM) entitled "Recognition and Measurement of Financial Instruments". The purpose of the DM is to discuss major issues, such as whether the basis of measurement should depend on the type of instruments or other circumstances pertaining to the recognition and measurement of financial instruments for all entities. The issues discussed in the DM have led to far-reaching changes in current accounting practices for financial instruments and have encouraged the accounting profession in the United States to seriously consider MVA for financial reporting of financial institutions.

In May 1993, the FASB issued SFAS No. 115, "Accounting for Certain Investment in Debt and Equity Securities". This Statement specifies accounting standards for equity securities that have a readily determined fair value and for all debt securities and is effective for fiscal years beginning after December 15, 1993. The primary purposes of SFAS No. 115 are: (1) to provide more uniformity in reporting for certain investments in debt and equity securities; (2) to address concerns expressed by the financial community regarding the recognition and measurement of investments in debt securities; (3) to require a piecemeal MVA approach of marking to market a portion of assets; (4) to restrict the circumstances in which debt and equity are reported at amortized cost; and (5) to prevent financial institutions from selectively selling securities recorded at historical cost in an attempt to manage their reported earnings (gains trading).

SFAS No. 115 defines three categories of debt and equity securities: held-to-maturity, trading, and available-for-sale securities. Held-to-maturity investments are those debt securities with positive intent and ability to hold to maturity, with no anticipation that they would be available to be sold in response to changes in market interest rates, needs for liquidity, or changes in foreign currency risk. These securities should be initially accounted for at cost and be subsequently adjusted for amortization of premium and accretion of discount. Trading securities should be reported at market value and any resulting realized or unrealized holding gains and losses should be included in the determination of net income. Available-for-sale securities are investments other than trading and held-to-maturity which may be sold prior to maturity. These securities should reflect market value with any resulting unrealized holding gains and losses reported as a net amount in a separate component of shareholders' equity until realized; realized gains or losses should be included in earnings.

SFAS No. 115 requires that the transfer of securities between investments categories be accounted for at fair value and any transferred unrealized holding gains or losses be recognized accordingly. Trading securities should be classified as current assets, while held-to-maturity and available-for-sale securities should be classified as either current or noncurrent, based on their time period to maturity, as appropriate.

The FASB has adopted a piecemeal approach in promoting MVA because it requires MVA for the asset side but requires no matching on the liability side of the balance sheet. However, SFAS No. 115 may be considered as the first step toward requiring MVA for all bank financial items. The most immediate impact of the adoption of SFAS No. 115 will be a re-classification of certain securities. Banks' earnings and/or capital will be more volatile as the fluctuations in the value of securities reflect quarterly or annual adjustments for market values. Banks may act in a suboptimal manner to boost earnings by selling securities whose values are high while keeping underwater securities.

In compliance with the provisions of SFAS No. 115, institutions may try to shorten the life of their securities by either increasing holdings in short-term investments (e.g., trading securities) or decreasing long-term investments (e.g., hold-to-maturity securities). On the other hand, banks, in an attempt to avoid fluctuations in earnings and equity, may suboptimally choose to hold a great portion of securities to maturity despite the changes in market conditions, liquidity needs, and regulatory demands. Capital is a critical factor in the banking industry, such that any significant fluctuations in equity could have regulatory implications and unfavorable impacts on a bank's lending limit. Thus, banks may attempt to reclassify their available-for-sale securities into either trading or held-to-maturity in order to minimize fluctuations in equity. The actual impact of adopting SFAS No. 115 will depend on the institution's revised asset/liability management strategy.

Internal Revenue Service

After the issuance of SFAS No. 115, the Reconciliation Act of 1993 (the 1993 Act) expressed the IRS's concerns regarding financial reporting of financial institutions. Section 13223 of the 1993 Act requires the use of the MVA method for securities dealers and added Section 475 to the Internal Revenue Code (IRC) in August, 1993. IRC Section 475 is effective for all taxable years ending on or after December 31, 1993. It requires dealers in securities to use the mark-to-market method with respect to securities held in inventory. Other securities not held for investment at year end are considered to be sold for its market value on the last business day of the year. However, the mark-to-market rules do not apply to three categories: (1) any security held for investment; (2) any evidence of indebtedness that a dealer acquires or originates in the normal course of business; and (3) any security that is issued as a hedge for another security that is not subject to the mark-to-market rules or as a hedge for a position, income right, or liability that is not a security in the taxpayer's hands.

IRC Section 475 will have a tremendous impact on the financial industry as the IRS affirmed its position that banks and insurance companies are not excluded as dealers in securities for the purposes of Section 475. The IRS also clarified that a

security's classification for financial accounting purposes is not dispositive of the security's classification for federal tax purposes. Even though a certain security is classified as available-for-sale according to SFAS No. 115, it may, nevertheless, qualify for the held-for-investment exception to mark-to-market rules under IRC Section 475.

In summary, the banking industry in the United States has been depicted as strongly opposed to any move towards MVA. Indeed, results of a survey conducted by KPMG Peat Marwick in 1992 reveal that 90 percent of the responded bankers, analysts, and users of financial statements in the United States oppose the adoption of fair market value accounting. Over 95 percent of the respondents preferred HCA with supplemental fair market value disclosures.

Survey

To determine the relevance of MVA for financial institutions, a four-page questionnaire was designed, pretested, revised, and then mailed to Chief Financial Officers or Chief Executive Officers of the 500 largest banks in the United States. The questionnaire contained 17 questions grouped into six sections (a copy of the questionnaire is available from the authors). The first section sought to obtain some general factual information as to the implication of MVA and HCA for financial reporting. Section two asked subjects to express their opinions as to how well the market value system (MVS) compares to the traditional historical cost system (HCS). This section also sought respondents' perceptions of some of the obstacles of using MVA in financial reporting.

The third section sought information regarding the financial reporting impact of adopting SFAS No. 115 by the banking industry. Section four asked subjects to express their perceptions regarding the feasibility, applicability, relevance, and adoptability of MVA for banks' financial reporting. This section utilized a five-point rating scale. The fifth section asked respondents for their perceptions regarding the economic and managerial impacts of adopting MVS for financial reporting. The final section asked for comments and demographic data to be used for classification purposes. Usable questionnaires were received from 84 respondents, resulting in a 16.8 percent response rate.

Results

Comparison of MVS with HCS

The credibility and usefulness of historical-based financial reports have been the subject of controversial debates and serious challenges during the past decade. Many argue that the historical-based financial statements did not reveal, on a timely basis, any warning signals of financial failures and problems (Sullivan, 1991; Johnson and Peterson, 1984). Approximately 70 percent of the respondents felt that the currently used HCA system has failed to measure the economic reality of today's financial

environment (Question 1, Table 1). However, when the respondents were asked whether their banks will benefit both in short-run and long-run from a shift away from HCA to MVA, the majority view the move as negative (over 71 and 85 percent, respectively, in short-run and long-run, Question 2 of Table 1). While the respondents agreed that HCS fails to reflect the true economic value of banking transactions, they remain unconvinced as to the feasibility and adoptability of MVS for the banking industry.

Proponents of MVA (Morris and Sellon, 1991; Mondschean, 1992) argue that if MVA had been in use: (1) the S&L crisis would have been lessened; (2) gains trading from selling appreciated securities would have been minimized; and (3) more relevant and reliable financial information would have been disseminated to users in evaluating true net worth and performance of banks. Opponents (ABA Banking,1990, 1991; O'Brien, 1991) have argued that MVA measures are subjective, its adoption would distort financial reporting, and it creates volatility in reported earnings and owner's equity. Furthermore, it may lead to a false sense of security and result in negative managerial behavior to minimize the impact on financial reporting.

Question 3 of Table 1 presents the results of a series of questions regarding the issue of MVS compared to HCS in fulfilling the perceived objectives of financial reporting. The respondents, on the average, hold that HCS is better than MVS in providing more reliable, less volatile, and more comparable information; with the

Table 1. Respondents' preference for MVS or HCS (%)

1. Historical cost system (HCS) has failed to measure the economic reality of today's financial environment		*Yes*	*No*	
		69.6	30.4	
2. Banks will benefit from a shift away from HCS to a market value system (MVS) in		*Yes*	*No*	
Short-run		28.9	71.1	
Long-run		14.5	85.5	
3. How does MVS stand up to HCS in fulfilling the following financial reporting objectives	*MVA better than HCS*	*MVS same HCS*	*HCS better than MVS*	*Mean response*
Scale	(1)	(2)	(3)	
a. Providing reliable information	13.3	34.9	51.8	2.39
b. Providing relevant information	22.9	43.4	33.7	2.10
c. Providing objective information	20.7	41.5	37.8	2.17
d. Providing less volatile information	3.6	6.0	90.4	2.87
e. Providing more comparable information	16.0	28.4	55.6	2.40
4. What are some obstacles of using MVA?[a]				
Subjectivity of discounted interest rate			69.9	
Incomparability between financial institutions			59.0	
Classification of securities to "held-to maturity securities"			54.2	
Inability to estimate future cash flows			42.2	
The secondary market for assets is relatively non-liquid "trading securities" and "available-for-sale securities"			34.9	
Other			32.5	

[a]Respondents were asked to "Check all that apply."

Table 2. Respondents' perceptions of SFAS No. 115 (%)

	None (no change)	Positive (Increase)	Negative (Decrease)
1. Financial impacts of adopting SFAS No. 115			
a. earnings	66.2	14.3	19.5
b. assets	38.7	53.3	8.0
c. liabilities	83.8	5.4	10.8
d. equity	16.0	73.3	10.7
e. investment securities	31.1	50.0	18.9
f. debt securities	51.4	30.6	18.1
2. Have you reclassified a portion of your securities in an attempt to mitigate the possible negative impact of SFAS No. 115?	*Yes*	*No*	
	39.8	56.6	
3. Will you reclassify a portion of your securities in an attempt to mitigate the possible negative impact of SFAS No. 115?	*Yes*	*No*	
	55.4	32.5	
4. Do you prefer the MVA proposed in SFAS No. 115 to the lower-of-cost or market (LOCOM) rule suggested by the SEC?	*Yes*	*No*	
	66.7	33.3	

mean responses of 2.39, 2.87, and 2.40, respectively. They felt that both MVS and HCS were approximately the same, or HCS is slightly superior to MVS in providing relevant and objective financial information with the mean responses of 2.10 and 2.17, respectively. Ironically, the respondents did not consider MVS as being superior to HCS in enhancing credibility and usefulness of financial reporting for the banking industry. These results indicate that, contrary to the position of the critics of HCS, the respondents reported a distinct preference for HCS over MVS in providing reliable, relevant, objective, less volatile, and more comparable financial information.

Question 4 of Table 1 asked the respondents to indicate some of the obstacles to using MVA. The results reveal the highest ranked obstacles by the majority of respondents (about 70 percent) is "subjectivity of discounted interest rate." Fifty-nine percent of the respondents regard incomparability between financial institutions as an important obstacle. Other problem areas such as classification of securities, inability to estimate future cash flows, and the non-liquid secondary market for assets were cited as obstacles by over 54, 42, and 34 percent of the respondents, respectively.

Reactions to SFAS No. 115

Question 1 of Table 2 asked the respondents a series of questions regarding their perceptions of the financial impacts of adopting SFAS No. 115. Over 66 percent of the respondents felt that the adoption of SFAS No. 115 will not have any impact on their earnings, while 14.3 and 19.5 percent, respectively reported positive and negative impacts on earnings. Approximately 54 percent believed that the adoption of SFAS No. 115 will have a positive impact on assets, while over 38 percent thought it

would not have any impact on assets and only eight percent felt it may have negative impact on assets. The majority of the respondents (approximately 84 percent) reported that SFAS No. 115 will not have any impact on their liabilities, while over 73 percent indicated that the Statement will have a positive effect on their equity. The reported impact of SFAS No. 115 on investment securities was marginally positive (50 percent) while only 31 percent expect a positive impact on debt securities.

The respondents, on the average, did not feel that the adoption of SFAS No. 115 will have any negative impact on key financial items. When they were asked whether they had reclassified a portion of their securities in an attempt to mitigate the possible negative impact of SFAS No. 115, about 57 percent said no, they had not reclassified (Question 2, Table 2). However, over 55 percent of the respondents reported that they would reclassify a portion of their securities in an attempt to mitigate the possible negative impact of SFAS No. 115 (Question 3, Table 2). In compliance with the provisions of SFAS No. 115, institutions may also try to shorten the life of the securities portfolio and to reduce volatility in capital by: (1) increasing hedging activities; (2) decreasing investments in long-term securities; and (3) increasing holdings on short-term investments. Over 66 percent of the respondents reported that they prefer the MVA proposed in SFAS No. 115 to the lower-of-cost or market (LOCOM) rule suggested by the SEC for marketable securities (Question 4 of Table 2).

Status of MVA

Current accounting standards on MVA have created much discussion and criticism regarding feasibility, desirability, relevance, applicability, and adoptability of MVA for financial reporting in the United States. Table 3 presents results of a series of 24 scaling questions designed to assess current status of MVA and to further elaborate on the pros and cons of adopting MVA for financial reporting. A scale of one to five was used, with one representing strong agreement and five indicating strong disagreement. The percentage of responses and the mean response to these questions are presented in Table 3.

Among the most robust perceptions held by the respondents are that MVA: (1) increases volatility in reporting financial conditions and earnings; (2) encourages management to focus on short-run decision making and performance; (3) requires market value measures that are subjective and difficult to be verified; (4) will be more costly than HCA to maintain and to audit; (5) should not be used for external financial reporting, tax purposes, or a regulatory tool; (6) does not generally provide superior or proactive information; (7) should not be adopted across the board for all industries; (8) will not appreciably reduce the practice of income smoothing (e.g., selective disposal of securities); (9) would have made no substantive difference in anticipating or ameliorating the S&L crisis; (10) does not always assume a more consistent and realistic measure of net worth; (11) should be phased in, allowing a longer transition period; (12) places more importance on the balance sheet than the income statement; (13) should apply to all financial statement items, not just to selected items (e.g., inventory, marketable securities); and (14) places more importance on the balance sheet than the income statement.

Table 3. Respondents' perceptions of characteristics of MVA for financial reporting (%)

	Scale:	Strongly agree 1	2	3	4	Strongly disagree 5	Mean response
a.	MVA places more importance on the balance sheet that the income statement	33.7	36.1	16.9	8.4	4.8	2.14
b.	It is not feasible and cost beneficial to maintain books and records using MVA	27.7	22.9	13.3	24.1	12.0	2.70
c.	The SEC should require MVA for all companies under its jurisdiction	14.3	7.3	14.6	18.3	46.3	3.77
d.	MVA provides financial statement users with proactive information	3.6	13.3	28.9	32.5	21.7	3.55
e.	MVA reveals the underlying economic reality of a company's assets	8.4	28.9	21.7	22.9	18.1	3.13
f.	MVA reduces the risk of management manipulation of financial statements (e.g., income smoothing)	7.2	13.3	27.7	30.1	21.7	3.46
g.	MVA better reflects the actual net worth of financial institutions	7.2	24.1	14.5	32.5	21.7	3.37
h.	MVA use a beneficial tool in risk management assessment	2.4	27.7	28.9	19.3	21.7	3.30
i.	Adoption of MVA is useful in evaluating the future earning potential of financial institutions	0.0	14.5	20.5	33.7	31.3	3.81
j.	MVA provides early signals of business failures and identifies "good concern" problems	3.6	15.7	24.1	38.6	18.1	3.51
k.	MVA should be used for external financial reporting	2.4	7.2	18.1	32.5	39.8	4.00
l.	MVA should be used for regulatory and compliance purposes.	3.6	12.0	25.3	24.1	34.9	3.75
m.	MVA should be used for tax accounting puposes	2.4	4.8	12.0	20.5	60.2	4.31
n.	MVA increases volatility in the reported financial conditions and earnings	52.4	35.4	1.2	6.1	4.9	1.75
o.	MVA encourages management to concentrate more on short-term decision making and performance	43.4	34.9	18.1	0.0	3.6	1.85
p.	Measures of MVA are very subjective and not verifiable	22.9	31.3	27.7	14.5	3.6	2.45
q.	MVA increases the cost of internal auditing verification of MVA measures	25.3	34.9	24.1	12.1	3.6	2.34
r.	MVA increases the cost of external audits	26.5	41.0	21.7	8.4	2.4	2.19
s.	If MVA had been in use, the S&L crisis would have been lessened	3.6	6.0	22.9	36.1	31.3	3.86
t.	There should be a translation period in converting to MVA	21.7	19.3	37.3	14.5	7.2	2.66
u.	The accounting profession and financial community should move across the board toward an MVA system	3.6	7.2	15.7	30.1	43.4	4.02
v.	MVA can be implemented successfully	2.4	15.7	22.9	39.8	19.3	3.58
w.	Financial statements should reflect the dynamic market environment	2.4	24.1	31.3	24.1	18.1	3.31
x.	MVA should apply to all financial statement items, not just to selected items (eg., inventory, marketable securities)	29.3	22.0	11.0	8.4	29.3	2.86

Financial and Managerial Impact of Converting to MVA

The results of Question 1 of Table 4 indicate that the respondents, on average, perceived the presentation of financial statements using MVA as generally negative

utilizing a rating scale from one (very negative) to five (very positive). The mean responses on a series of questions on the financial impact of converting to MVA were all less than three, indicating a general negative perception of the financial impact of adopting MVA on: (1) fair presentation of financial statement; (2) financial ratios; (3) stock prices; and (4) reserves on delinquent and non-performing assets. The perceived impact of MVA on managerial decisions is also seen as negative. The mean responses were less than three revealing, on the average, a negative impact on: (1) management decision; (2) auditors decision; (3) ability to obtain new equity funding; and (4) ability to secure new debt funding.

Question 2 of Table 4 asks the respondents how they plan to manage risk resulting from oscillation in equity market value. The majority of the respondents (over 73 percent) reported they will shorten maturity of investment portfolio. Other actions in order of importance are: (1) to allow capital to fluctuate; (2) to shift from intermediate-term government securities to more business loans; (3) increase investments in variable-rate mortgage-backed securities and decrease holdings of fixed-rate mortgage-based securities.

In summary, the survey results indicate that: (1) the currently used HCS has failed to measure the economic reality of today's financial environment; (2) the respondents remain unconvinced as to the feasibility and adoptability of MVS for financial reporting; (3) there is a distinct preference for HCS over MVS in providing reliable, relevant, objective, less volatile, and more comparable financial information; (4) the adoption of SFAS No. 115 will not have much negative impact on key

Table 4. Financial and managerial impact of converting to MVA (%)

		Very negative 1	2	No impact 3	4	Very positive 5	Mean response
1.	Impacts of adopting MVA for financial reporting on:						
a.	Fair presentation of financial statements	18.8	41.2	25.0	15.0	0.0	2.36
b.	Financial ratios (e.g., debt-to-equity)	15.4	37.2	24.8	21.8	1.3	2.56
c.	Management decisions	17.5	45.0	27.5	7.5	2.5	2.33
d.	Stock prices	6.3	31.6	51.9	10.1	0.0	2.66
e.	Auditors' decisions	3.8	30.1	60.3	3.8	0.0	2.64
f.	Reserves on delinquent and non-performing assets	2.6	15.4	76.7	3.8	1.3	2.86
g.	Ability to obtain new equity funding	2.6	17.9	74.4	3.8	1.3	2.83
h.	Ability to obtain new equity funding	2.6	17.9	74.4	3.8	1.3	2.83
h.	Ability to secure new debt funding	2.5	19.0	72.2	5.1	1.3	2.84
2.	How does your institution plan to manage risk resulting from oscillation in equity market value?[a]						
	Shorter maturity of investment portfolio		73.5				
	Choose less intermediate-term government securities and more business loans		27.7				
	Shrink size of institution		4.8				
	Allow tier I capital to fluctuate		43.4				
	Raise capital elsewhere		4.8				
	Other		19.3				

[a]Respondents were asked to "check all that apply."

financial items; and (5) the respondents did not have positive perceptions regarding, feasibility, desirability, relevance, applicability, adoptability of MVA for financial reporting.

The common perception of likely financial impacts of moving towards MVA appear to be negative. Furthermore, the projected impact on managerial decisions of adopting MVA is also negative. Nevertheless, the following changes in management decision-making and behavior are speculated as a result of the adoption of MVA for financial reporting: (1) investment portfolio management will change; (2) market price will become considerably more important in making investment decisions; (3) level of capital will be a factor in selecting securities; (4) a significant portion of the investment portfolio will be classified as available-for-sale; (5) banks will continue to balance liquidity needs and interest rate sensitivity in managing their investment portfolio; (6) banks will shorten the life of their securities portfolio in an attempt to reduce volatility in capital by decreasing investments in fixed-rate mortgage-backed securities and increasing holding of variable-rate mortgage-backed securities; (7) volatility in capital will continue to be a particular concern for banks because the FDIC Improvements Act of 1991 restricts banks' activities based on the capital level (e.g., dividend restrictions growth restrictions); and (8) the capital volatility resulting from adoption of MVA may in the short term cause banks to move into and out of their targeted capital zones.

Implications of the Current Initiatives on MVA for the Global Banking Industry

The International Accounting Standards Committee (IASC) has applied a conciliatory approach in the adoption of MVA by accepting MVA practices commonly used in the countries with a good accounting tradition. The IASC has issued a new proposed standards (Exposure Draft 40) for financial instruments which may revise the provisions of the International Accounting Standards (IAS) No. 25 on investment (Coopers & Lybrand, 1992). The ED 40 discusses financial instruments for investment, hedging, or operational purposes. IASC is in favor of mark-to-market valuation for both short-term and long-term investments in financial assets, but is yet to establish accounting standards on MVA. The ED 40 identifies three types of investments as "financing and investment", "hedging", and "operating". The ED 40 proposed the use of fair market value for financial assets arising from operating activities and held for investment purposes. Any resulting gains or losses from valuation are to be included in the income statement. The ED 40 also requires disclosures for information as to factors that affect the amount, certainty, and length of the cash flows derived form investments in financial assets.

Current accounting standards on MVA in the United States mandate a piecemeal approach to the adoption of MVA for only certain investments in debt and equity securities for financial institutions. These standards require large institutions to mark to market only a portion of their assets while ignoring any offsetting market value adjustments for related financial liabilities. The financial and managerial impacts of these standards to a large extent depend upon the institution's asset/liability

management strategy, the prevailing interest rate environment and disposition of securities by category.

The Federal Deposit Insurance Corporation (FDIC) Improvement Act of 1991 requires regulators to develop methods for institutions to provide supplemental disclosure on estimated fair market value of assets and liabilities, to the extent feasible and practicable (US General Accounting Office, 1991). Multinational corporations and the global banking industry typically use foreign exchange instruments such as future contracts and options to reduce their economic risk. The use of MVA with currency fluctuations may generate substantial unrealized gains or losses for global businesses. Inclusion of these gains or losses in the determination of net income or as part of owner's equity may not add credibility or usefulness to published financial statements of the international banking community and may create volatility in reported earnings and equity.

In light of current initiatives in the adoption of MVA for the banking industry, the United States is attempting to prevent a future crisis in financial institutions by: (1) discouraging banks to sell securities selectively recorded at historical cost in an attempt to manage their reported earnings (gains trading); and (2) restricting the circumstances under which securities carried at historical cost can be sold prior to maturity. Perhaps other countries should take into consideration the current initiatives on MVA in the United States and their impact on financial reporting in establishing new accounting and financial reporting standards as well as governmental rules and regulations for their own banks and for the global banking community. Specifically, the IASC should consider the initiatives on MVA in the United States and their perceived financial and managerial impacts in finalizing its proposed standards on MVA (ED 40) for the international business community.

Conclusions

During the past decade, the reliability and relevance of historical-based financial reporting of financial institutions in the United States has been subject to serious criticism and challenge. Critics have argued that historical-based accounting standards contributed to the savings and loan debacle of the late 1980s and the banking problems in the 1980s and early 1990s. As a result, the accounting profession in the United States has considered MVA for financial reporting. Perhaps it is time for the global financial community and accounting profession to loosen its grip on historical cost information and begin to realize that cost information relevant ten years ago will not become current by footnote disclosures. It appears that the financial and accounting standards-setting bodies are ready to discuss and consider some different alternatives in their efforts to catch up with the changing financial world. In developing standards on MVA for global financial institutions other countries should note the perceived lack of reliability and usefulness of historical based financial reporting in the United States. Although MVA has been proposed as a reform to ensure that financial statements are useful, relevant, and reliable, the surveyed bankers' perceptions regarding desirability, feasibility, relevance, and adoption of MVA in the United States do not appear to be positive. The IASC should consider these perceptions

toward MVA in finalizing its proposed standards (ED 40) on MVA for the international financial community.

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The French Approach to Financial Accounting and Reporting

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Key words: French accounting; Culture; European harmonization

Abstract: *In recent years, increasing attention has been paid to the causes of differences between the accounting systems of various countries. Efforts have been directed at both regional and international levels to eliminate or reduce these differences. This has not been an easy task; the complete elimination of differences on a regional or worldwide basis is probably an unrealistic goal because accounting is presumably affected by cultural and environmental factors that are specific to the locality in which decisions are being made. Since the late 1970s the EEC has been trying to harmonize accounting practices in Europe. Narrowing the differences between the accounting systems of Anglo-Saxon countries and those of Continental European countries has arguably been the most difficult problem facing the EEC in its attempt at the harmonization of accounting practices in Europe. Although some results have been achieved, European financial statements are far from being comparable. The purpose of this paper is to examine the French approach to financial accounting and recent changes and to relate this approach to the cultural and environmental factors prevailing in France.*

Introduction

In recent years, increasing attention has been paid to the causes of differences between the accounting systems of various countries (e.g., Radebaugh, 1983; Nair and Frank, 1980; Nobes, 1983, 1989; Parker and Nobes, 1991; Choi and Mueller, 1992). Efforts have been directed at both regional and international levels to eliminate or reduce these differences; the main objective was that users wishing to operate across boundaries should be able to compare financial statements from different countries. However, the complete elimination of differences on a regional or worldwide basis is probably an unrealistic goal because accounting is presumably affected by cultural

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and environmental factors that are specific to the locality in which decisions are being made and many of these factors are difficult to change (e.g., Hofstede, 1987; Perera, 1989; Hopwood, 1991).

Since the late 1970s the EEC has been trying to harmonize accounting practices in Europe. When classifying European member states according to their accounting systems (e.g., Nobes, 1989), Anglo-Saxon countries and Continental European countries (except for the Netherlands) lie at two opposite extremes as micro-based and macro-based accounting systems respectively. Narrowing the differences between the accounting systems of Anglo-Saxon countries and those of Continental European countries has arguably been the most difficult problem facing the EEC in its attempt to harmonize accounting practices in Europe. However, some progress has been achieved. Recently changes have occurred to some economic, political, social, and business environmental factors in various member states. These have given rise to changes in the needs of users regarding the provision of accounting information. As a result a two-way transfer of accounting practices has occurred between countries both within and outside the European Community. For example, Continental European countries have been able to transfer some of their accounting practices to Anglo-Saxon countries (e.g., formats of financial statements), and Anglo-Saxon countries have been able to transfer accounting practices and concepts to Continental Europe (e.g. A true and fair view, consolidation) (Parker, 1985, pp. 75, 83). The aim of this paper is to examine the French approach to financial accounting and recent changes therein and to relate this approach to the cultural and environmental factors prevailing in France.

The focus on France is motivated by the fact that, in classitying financial reporting practices in Europe, Nobes (1989) places France as macro-uniform based, heavily influenced by the government, tax, and legal regulations while Anglo-Saxon countries are classed as micro-based, more heavily influenced by business practice and pragmatism.[1] At the same time, accounting practices in Italy, Belgium, and Spain are classified with France under macro-based systems. Germany and Sweden are also classed closer to France than to Anglo-Saxon countries in that they are macro-uniform based and influenced by the government.

Of course, neither the Anglo-Saxon countries as a group nor European countries as a group have identical accounting rules. There are significant differences of detail between their individual accounting systems, but these differences are minor when compared with the differences between the overall accounting style of these groups.[2] The French style has been followed by other European countries, such as Spain, Belgium, and Greece. It has also been followed by countries outside Europe, mainly France's ex-colonies (Standish, 1990, p. 337; Baydoun, 1991).

In order to examine the relationship between French accounting and the cultural and environmental factors prevailing in France, this paper uses material from, psychology, sociology, history, geography and anthropology. An attempt is made to identify the societal values of French society which are likely to influence accounting practices and the way in which the relationship between the French societal values and French accounting practices occurs. The recent changes in some economic, political, social, and environmental factors in France and their accounting consequences are also examined. It is argued that these changes have given rise to

changes in the needs of the French users regarding the provision of accounting information.

In section 2 the relationship between accounting, culture, and other environmental factors is discussed. Section 3 describes the French approach to financial accounting to the early 1970s, when the UK entered the Common Market. Section 4 attempts to relate this approach to the environment in which French firms operate. The development of French accounting since the early 1970s, the possible influence of Anglo-Saxon accounting, and the effect of these on the comparability of European financial statements is examined in section 5. Section 6 provides the conclusions of the paper.

2. Theoretical Aspects of Cultural Influences on Accounting Practices

Recent accounting research argues that accounting practices of various nations differ for long-run, deep-seated reasons and suggests that cultural factors seem to play an important role in molding accounting practices and possibly affecting financial decision-making (e.g., Violet, 1983; Gray, 1988; Perera, 1989; Bloom and Naciri, 1989; Belkaoui and Picur, 1991; Baydoun and Willett, 1995). As a result accounting is perceived in different ways by different nations (e.g., Hopwood, 1991, p. 12). One of the most extensive works on cross-culture study of work-related values was conducted by Hofstede (1980). Using a questionnaire type methodology, he collected data about work-related values from over 60 000 employees of a single multinational firm in 40 countries.

Hofstede (1980, p. 25) defines culture as "the collective programming of mind which distinguishes one category of people from another" and argues that different countries can be classified according to four cultural values. These four cultural values are: large versus small power distance; strong versus weak uncertainty avoidance; individualism versus collectivism; and masculinity versus femininity. Power distance refers to the extent to which the unequal distribution of power within institutions and society in general is accepted by the society's members. Uncertainty avoidance refers to the extent to which members of society tolerate the uncertainty of the future. Individualism describes the relationship between members of society and their families as opposed to other social units. Masculinity refers to the sex role distribution in a society. It stresses material success in competitive societies as opposed to femininity which stresses tenderness and solidarity in a society. Hofstede (1987) used the data from the above project to argue that differences between national accounting systems can be explained by differences in the above national cultural values.

It should be noted that Hotstede's view of culture is not necessarily definitive. His results are based on the views of the employees of one single multinational company (IBM) which can be regarded as leaving its own strong culture. This raises the problem of generalization. The point of view of IBM employees may not necessarily be the same as those of other people (see also Montagna, 1987, p. 23). This is particularly true with respect to developing countries, where IBM employees

tend generally to be educated in the West, and thus may have been affected by Western culture. Thus, their point of view may not be the same as those of locally educated individuals. Nevertheless, Hofstede's work offers a framework for analyzing similarities and differences between various countries in terms of their culture (Hayes and Allinson, 1988). He provides a framework which can be used to examine the relationship between culture and accounting, by analyzing the possible connection between the differences in the accounting systems of various countries and national cultural values.

Gray (1988) developed a set of hypotheses that relate Hofstede's cultural values to accounting values. He argues that national accounting systems can be characterized by four accounting values: professionalism versus statutory control, conservatism versus optimism, uniformity versus flexibility, and secrecy versus transparency. These, according to Gray, are correlated with the above-mentioned cultural values. Professsionalism refers to the level of professional judgement and self-regulation in developing accounting practices, that is, the extent to which accountants can use their judgement to depart from detailed regulations in measurement and disclosure issues (Gray, 1988). Conservatism refers to the approach taken to consider the uncertainty of the future. It is a deliberate downward bias or "pessimism" in accounting estimates (Gray, 1988; Chambers, 1966). This emphasizes a statistical aspect of accounting measurement which is likely to be context specific and it mainly affects the choice of valuation method and income determination (Baydoun and Willett, 1995). Conservatism is an adversary of fairness (Nobes, 1989, p. 16), one of the main concepts recently introduced under British influence into the accounting practices in the EEC. Uniformity refers to the level of consistency in measurement and disclosure practices. It implies a preference for consistency in accounting practices *between* different firms and is opposed to flexibility in accounting for the circumstances of individual companies. Finally, secrecy relates to an issue of disclosure, the extent to which accounting information concerning the firm is kept confidential and restricted to those closely involved with its operations. According to Gray, these accounting values are supposed to be correlated with underlying cultural values in the way explained in Table 1. Of the four values identified by Hofstede, the most influential in terms of organization and accounting, according to Gray, are uncertainty avoidance and individualism. Gray also states that his proposed relationship between accounting and cultural values is exploratory and needs to be empirically validated.

Table 1. Relationships between Gray's accounting dimensions and Hofstede's cultural dimensions

Hofstede:	Gray: Accounting values			
Cultural values	Professionalism	Uniformity	Conservatism	Secrecy
Power distance	–	+	?	+
Uncertainty avoidance	–	+	+	+
Individualism	+	–	–	–
Masulinity	?	?	–	–

Note: "+" indicates a direct relationsjip between the relevant variables; "-" indicates an inverse relationship. Questions marks indicate that the nature of the relationship is indeterminate.
Source: Baydoun and Willett (1995).

Few attempts have been made to empirically test these correlations (e.g., Perera, 1989; Gerhardy, 1990; Baydoun and Willett, 1995). These studies have used the work of Hofstede (1980) and Gray (1988) to examine the role of culture in the development of accounting practices in a particular country and to examine the relevance of Western accounting systems to developing countries. Other major works on the possible impact of culture on accounting include Perera (1989) and Perera and Mathews (1990). These two studies also relate Hofstede societal values to accounting values. Their findings confirm Gray's (1988) conclusion that of the four societal values identified by Hofstede the most influential ones in terms of their relationship with accounting values are uncertainty avoidance and individualism. They also propose a set of hypotheses similar to those of Gray.

Perera suggests that either one or more of the above-mentioned accounting values have considerable influence on accounting practice and that societal values are affected by a wider set of environmental and economic factors (e.g., Fechner and Kilgore, 1994). He states that "On a broader perspective, societal values are affected by ecological influences through geographic, historical, technological, and urbanization factors, which in turn are influenced by external factors, such as forces of nature, trade, investment and conquest ... both ecological factors and societal values influence a society's institutional arrangements for legal and political systems, corporate ownership, capital market, professional association education, and religion, which affect accounting values and accounting practices" (p. 49). This was also supported by other studies in the area (Schreuder, 1987; Gray,1988; Standish, 1991; Baydoun, 1991) which suggest that in addition to culture, the influence of other economic, political, and social factors on accounting needs to be assessed. For example, factors, such as colonization, war, foreign investment, multinational companies, and international accounting firms, have influenced accounting practices in many countries.

The work of Gray, Perera, and Mathews has explained the relationship between societal values and accounting values oll the basis of the findings of Hofstede and an analysis of the activities of the accountants. Perera applied these relationships to explain the differences between Anglo-American and Continental European accounting systems in general terms.

Cultural and environmental factors are not likely to be static phenomena. They change over time, and one would thus expect accounting to respond to these changes (e.g., AlNajjar and Volz, 1991). Recent economic and political changes in Europe have given rise to changes in the needs of users in member states regarding the provision of accounting information. For instance, before World War Two the French economy was dominated by small size and family-owned firms (Lévy-Leboyer, 1976) and there was little need for French firms to compete in international capital markets to raise funds. During the postwar period, accounting information was mainly used for economic programming to help the government, as the main controller of the economy in its macro planning policy. More recently, however, large companies are becoming increasingly important in the French economy and the influence of government on accounting has declined while the French stock exchange has instead become more influential. The effects of Europe becoming a single economic market have also been significant. These changes have given rise to changes in the needs of the French users with respect to the provision of accounting information.

3. The French Approach to Financial Reporting

The differences between the French accounting system and those of other countries reflect the extent of the relationship between taxation and accounting rules, the level of uniformity in financial reporting amongst companies, asset valuation methods, influence of the accountancy profession, patterns of firm ownership, prevalence of consolidated accounting practices, and the extent of disclosure with respect to issues like social and segmental reporting (e.g., Nobes, 1989).

In France these features tend to be different for individual accounts and consolidated accounts; as a result, a distinction must be made between these two types of accounts. This distinction has so far been overlooked in most of the accounting literature. The disclosure and valuation methods for individual and consolidated accounts are not similar. For instance, the *Féderation des Experts comptables Europeans* (FEE) (1991) found that in the case of accounting for leases there is no capitalization in the single accounts whereas consolidated accounts include capitalized finance leases. It was also found that changes in accounting policies, especially valuation methods, were more frequent in the French consolidated accounts (see also Table 2).

The differences between the two sets of accounts have recently increased to account for the recent changes in some economic and environmental factors and as a result of the increasing influence of the *Commission des Opèrations de Bourse* (COB) on consolidated accounts. Companies' individual accounts are heavily influenced by tax and legal regulations, while group accounts are adjusted to eliminate tax impact and can be prepared in accordance with French, UK, US, or other Generally Accepted Accounting Principles (GAAP). Scheid and Walton (1992a) argue that "*the web of regulations is very complex indeed, with one set of regulations dealing with individual accounts and another dealing with group accounts*". Furthermore, the English language literature on French accounting is misleading not only in its failure to distinguish between individual and group accounts but also in its assessment of the level of conservatism, secrecy, and uniformity in French accounting.

Table 2. Similarity of disclosure and valuation policies

	Bel	Den	Fra	Ger	Gre	Ire	Lux	Net	UK	Total
Sample size	50	32	40	49	30	38	12	40	50	341
Disclosure and valuation are similar:										
Equity is identical	–	18	–	3	–	–	–	34	3	58
Equity is not identical	–	6	1	35	–	30	–	–	45	117
Disclosure and valuation policies are not similar	–	–	22	–	–	–	–	–	–	22
No disclosure of consolidatred accounts (no subsidiaries or no requirements no disclose consoldiated accounts	50	8	17	11	30	8	12	6	2	144

Source: FEE (1991).

Taxation and Accounting Rules

Traditionally French accounting is largely influenced by detailed legislative regulation and tax rules which specify the accounting methods to be used, disclosure requirements, and formats of financial statements (AlHashim and Arpan, 1992). The impact of legal and tax regulations is different on individual and consolidated accounts.

With regard to individual accounts, tax laws dominate profit measurement (Beeny, 1976; Nobes, 1984; Walton, 1992). The control imposed by fiscal laws on the construction of the financial statements has been significant and tax regulations are very detailed. The influence of tax and legal regulations on French accounting dates back to early 1900. Mavridorakis (1970) argues that "since the creation of income tax by the law of 15 July 1914, the legislators and the tax administration have exercised their minds in intervening in the domain of accounting". Accountants are left with little discretion in their selection of form or method in accounting. These accounts are as a result characterized by a high level of conservatism as opposed to transparency (see below).

Accounting principles for commercial accounts must, according to French tax regulations, be applied to tax calculations. Puyraveau and Descottes-Genon (1972) suggest that when tax laws are created by statues or regulations that numerous rules are imposed on the presentation of accounting statements. They further observe that "tax law tries to define a profit which will not be fraudulently reduced in order to avoid tax." Tax benefits resulting from tax-deductible expenses are only taken if the commercial accounts contain the same figures (e.g., Nobes, 1980, p. 3; Scheid and Walton, 1988). For instance, depreciation charges are deductible only if recorded in the commercial accounts. While depreciation in France is determined largely by tax rules, in the United Kingdom it is determined solely using accounting standards. UK taxation allowances for depreciation (capital allowances) are given independently of their accounting treatments. This constitutes a major obstacle for comparing financial statements between these countries and represents a major problem the EEC has so far failed to overcome. In the case where taxable income is lower than commercial income before tax due to timing differences higher taxes will be paid in later years and, to equalizse the resulting tax expenses, an accrual for deferred tax is required from French firms. The influence of tax laws on accounting in France generally results in small differences between commercial and taxable income. Thus, unlike the case of the Anglo-Saxon systems, the problem of deferred taxes is almost non-existent. However, in the case of consolidated accounts, the impact of tax and legal regulations is less significant. In this case financial and tax accounts may not be the same, which gives rise to the problem of deferred taxation. Scheid and Walton (1992a) argue that "the individual accounts have a very long history (dating back to 1673) and in the twentieth century have become deeply involved with taxation ... Group accounts, on the other hand, have only been introduced relatively recently (progressively since 1971) and only become widespread following the Implementatlon of the EC Seventh Directive (1985)" p. 6).

Level of Uniformity

The *Plan Comptable Général* (PCG) which was originally adopted in 1947 (see Standish, 1991; Beeny, 1975; and Lafferty, 1975 for more detail) has been the main source of accounting regulation in France (e.g., Perera, 1989). It is an output of the *Conseil National (de la Comptabilitié (CNC),* a consultative government-controlled body. Thus it does not have any legal backing until legislation is passed (Pham, 1984). France became the first country in the world to adopt and develop a national accounting code under peacetime conditions (Standish, 1990, p. 337).

Building from an extensive chart of accounts, the plan prescribes basic recording and classification procedures and how to prepare financial statements in considerable detail, and contains financial statements formats and statistical reports for macro and micro accounting purposes (AlHashim and Arpan, 1992). It was originally made mandatory for nationalized industries and firms obtaining government subsidies and, after being adopted by the fiscal authority as the basis for tax returns in 1965, it has been adopted by virtually all firms.

The plan has undergone many changes to reflect the needs of different industries and to account for the changes that have occurred in the economic, political and social structure of the French economy. A revised version was issued in 1957 mainly to meet the needs of the national accounting system which had been introduced progressively since 1952. From 1959, the 1957 plan was modified to become industry specific (Scheid and Walton, 1992b, p. 158). More recently other issues (see section 5) have been dealt with in later versions of the plan which incorporate some of the requirements of the EEC directives.[3]

For the purposes of reporting practice the coding in the chart of accounts is organized in three versions. First is the abridged plan for companies falling below a specified size. Second is the Standard plan; this is directed to medium and larger-size companies. Finally there is the expanded plan, which requires a more extensive disclosure of accounting information. For each of these plans the format for financial statements is provided. Companies are required to produce a balance sheet, a profit and loss account and notes to the accounts *(annexe).* Companies using the expanded version of the plan should also prepare a source and application of funds statement. These statements are generally prepared by most listed public companies. A 5- to 10-year financial summary is extensively disclosed and 2 years of comparative financial statements are usually given. Some firms provide a cash flow statement (e.g., Bavishi, 1989).

The PCG states the main principles of accounting, which also constitutes the basis for international GAAP (Baydoun and Gray, 1990). These are:

(a) nominal value (historical cost with revaluation of assets – see below;

(b) independence (matching);

(c) consistency;

(d) prudence;

(e) going concern;

(f) priority (usefulness to users' decisions).

Further, the plan lays down very specific rules for measurement and valuation. It does not, for example, permit firms to use LIFO as a basis for inventory valuation. In their group accounts companies are allowed to deviate from the PCG and follow French, UK, US, or other accounting practices.

Asset Valuation Methods

In the case of individual accounts, the influence of the plan, laws, and tax regulations on the measurement of income in France has resulted in a low input of professional judgment in the choice of valuation methods (e.g., Nobes, 1989; see also below). High inflation, particularly after World War II,[4] gave rise to some concern as to the reliability of historical cost accounting figures, so that inflation accounting and asset valuation become a major issue in France.[6] The Finance Acts of 1978 and 1979 made revaluation obligatory for all listed companies and those soliciting public funds but it was left optional for others. It was thought that this would result in a more realistic balance sheet. In the case of group accounts valuations could depart from these tax-controlled figures (e.g., Nobes, 1989, pp. 72, 81; FEE, 1991; Scheid and Walton, 1992b, p. 166).

Simons (1990) argues that many years after the adoption of the EEC Fourth Directive the existing methods of valuation in various member states are still very different. No consensus on asset valuation is evident in the EEC Fourth Directive. Various options with respect to many issues including valuation methods were allowed. Different methods are still being used in different member states. This casts doubt on the possibility of meaningful comparison between the financial statements derived under these methods.

Influence of the Accounting Profession

From the foregoing, one might expect the input of professional judgment in accounting, especially in the case of individual accounts, to be insignificant, and this is generally thought to be the case (e.g., AlHashim and Arpan, 1992). Traditionally, the French accountancy profession is largely controlled by the government and regulated under the 1945 law. The influence of the accountancy profession on the development of French accounting has been insignificant (Parker, 1985, p. 93). This meant less need for auditors (e.g., Nobes, 1989) and explains the slow development of the audit function in France when compared to that of the United Kingdom (Standish, 1991, p.169). Prior to the introduction of the EEC Fourth Directive, auditors were mainly concerned with ensuring that the fiscal and legal requirements had been followed and to check on the correctness of taxable income (e.g., Nobes, 1980, p., 2). They were required to report on the "*régularité*" (conformity with the laws) and "*sincérité*" (fairness of the presentation of the accounts) of the financial statements. However; they are now required to report on the conformity of the annual accounts with the concept of "*image fidèl*" (true and fair view) introduced by the Fourth Directive (CNCC, 1990, p. 32). The implication of this will be examined later.

Pattern of Firm Ownership

Traditionally, in France, the government and banks are the main source of finance. As a result they can be very influential, and tend to have access to inside information (e.g., Nobes, 1980) to help them in their decision-making and control. The family type of business is the most prevalent in France. The recent growth of family business in France did not correspond to an increase in equity capital. French companies often choose debt rather than equity financing (Scheid and Walton, 1992b, p. 160). However, the traditional role of the banks as the main suppliers of business finance has recently declined and the role of the stock market has instead increased (Bertero, 1990). This is also explained by the relatively low number of firms listed in the Paris *Bourse*.[7]

It should be noted here that the different environments in the member states have affected the regulatory framework of their respective stock exchanges. The International and Amsterdam stock exchanges are self-regulated; Frankfurt is bank controlled and the Paris *Bourse* is government controlled (Tondkar *et al.*, 1990, p. 128). However, since 1988 the Paris *Bourse* has been self-regulated. Also, multinationals seem to have had a small effect on French accounting as they have not been influential in the French economy (Standish, 1991, p.167).

Prevalence of Consolidation Practices

Since the adoption of the EEC Seventh Directive and as a result of the influence of the COB, consolidation practices in France are comparable to those of other Western countries. Consolidation is now obligatory for groups except for those falling below a specified size limit, (Pham, 1988). In this respect a significant deviation from the 1982 PCG was inevitable for French public firms to be able to compete for international finance. A separation between individual accounts and group accounts was made in that groups are allowed to depart from the 1982 Plan and adopt other practices. However, in their individual accounts they are required to comply with the PCG.

The 1986 Decree implementing the Seventh Directive on consolidated accounts gave firms the freedom to use rules available in other financial markets. According to this Decree, all firms over which a parent has exclusive control should be included as subsidiaries. Subsidiaries whose line of business is significantly different from that of the parent may be excluded from the consolidation and should be accounted for by the equity method. In the case of goodwill, while the 1986 Decree requires its capitalization and amortization, it allows, in exceptional circumstances, firms to take goodwill directly to the reserves (Scheid and Walton, 1992b).

Extended Disclosure Practices

The extent of disclosure by French firms is comparable with those of other Western countries. One of the main influential factors in this respect has been the French COB, which was established in 1968 after it was realized that financial information disclosed by French companies was not sufficient (Boussard and Rey, 1984,

pp. 44–45). The COB is similar to the US Securities and Exchange Commisssion. Its work has recently influenced the amount of disclosure by French firms, particularly those wishing to list on the stock exchange. One of its main achievements was the introduction of consolidated accounts to France. It requires consolidated accounts from all firms wishing to obtain a new listing (e.g., Nobes, 1989).

One of the unique features of French accounting is the extent of disclosure of social oriented information. The level of presentation of the various social groups within firms differs from one country to the other. In France employees are particularly well represented. They are generally kept informed of the operations of their firms. Employees are considered an audience of interest for the annual report of French companies. As a result of the recommendation of the Sudreau report, French firms employing more than 300 employees are required to prepare a *bilan social* (social balance sheet). The *bilan social* should be supplied to the employees council, union representatives, and an official of the French labor administration *(inspecteur du travail)* (Parker, 1985, p. 93; Choi and Muller, 1992, pp. 332–333). It contains information concerning safety, security, salaries, employment of disabled people, training, and redundancy among other things. In this respect French practice outperforms that in the Anglo-Saxon countries (e.g., Parker, 1985, p. 93). Meek and Gray (1989) found that French firms listed on the London Stock Exchange provide, with German companies, the most extensive employee disclosure as compared to other European countries.

Meek and Gray (1989) also found that French firms listed on the London Stock Exchange provide substantially more segment data than they were required to do. Information disclosed included sales, profits, and capital investment. Information was given by both product and geographic region, although more information was given about the former.

4. Accounting and its Environment in France

To understand the accounting system of a country one should have both a knowledge of and an empathy with the entire local scene (e.g., Hofstede, 1993). The above approach to accounting can be explained in terms of the societal values prevailing in French society. For instance, the above discussion suggests that the influence of the accountancy profession on the development of accounting practices is different in different parts of the world. In some countries, such as the Anglo-American countries, the development of accounting standards is largely seen as a matter for private self-regulation to be controlled mainly by the accountancy profession. In France, it is thought that the development of accounting standards should be subject to statutory control (e.g., Taylor and Turley, 1986). The description of the French accounting system in section 3 leads to the conclusion that professional judgment and self-regulation are unimportant and that uniformity is high, especially in the case of individual accounts. This situation has recently changed and the influence of the COB, especially on consolidated accounts, is significant. Further, the traditional role of accountants which was to check on the implementation of the detailed fiscal

and legal regulations has changed as a result of the implementation of the Fourth Directive, which requires them to attest as to whether the financial statements show a "true and fair view."

Individual accounts in France lack flexibility. This seems to be intentional and appears to be largely historical (Parker and Nobes. 1991). There has been a long tradition of accounting legislation in France. The large input of the French government in the development of the uniform accounting system together with a strong legislative influence on company disclosure practices has limited the options available to accountants in their choice of accounting treatments in order to achieve higher uniformity of practice. Gray (1988) states that uniformity in France is high compared with other Western countries. Consequent upon the influence of the plan, laws and tax regulations on the measurement of income in France, the input of professional judgment in the choice of valuation methods in individual accounts is insignificant (e.g., Nobes, 1989). Uniformity in the PCG is clearly identified with respect to the formats of financial statements, accounting principles and disclosure requirements.

The literature on the relationship between societal values and accounting values (e.g., Gray, 1988; Perera, 1989; Perera and Mathews, 1990) suggests that professionalism is inversely associated with power distance and uncertainty avoidance, so that the low level of professionalism in French accounting should be associated with a society exhibiting large power distance and strong uncertainty avoidance, Perera and Mathews (1990) asserted that France would exhibit high uncertainty avoidance and thus would have a negative attitude toward professionalism and high uniformity in its accounting system. Perera (1989, p. 53) and Hofstede (1980, pp. 92–152; 1993) both argue that French society exhibits a large power distance and a strong uncertainty avoidance. Hofstede locates France in the lower right-hand quadrant with low tolerance for ambiguity and propensity for developing hierarchical structure. This appears to be the result of the preference of the French for highly centralized bureaucratic structures – a trait which seems to be a stable and accepted characteristic of French society over a long period of time and is exhibited in political and economic hierarchies at all levels (Most, 1984; Baydoun and Willett, 1995).

Although most of the literature in the English language suggests that conservatism is high in French accounting, this may only be true in the case of individual accounts. The PCG which must be followed in the case of individual accounts is inherently conservative (e.g; Gray, 1980, p. 76; Standish, 1991; Most, 1984; Nobes, 1980; Choi and Mueller, 1992; Walton, 1992, p. 197).[8] As discussed in the previous section, depreciation policies are determined strictly in accordance with taxation law and the practice of accounting reserves is popular. Rather large amounts of income (5%) must be set aside each year to a statutory reserve until the latter reaches a level of 10 per cent of the issued share capital or to a higher percentage provided in the articles. Similar practice is followed in Germany, Spain, Italy, and most French ex-colonies (e.g., Baydoun, 1991). One possible cause of the level of conservatism within the French profession is that officers of corporations can be held legally responsible for the failure of their organizations to disclose realistic profit figures. This may explain the popular practice of accounting reserves mentioned above (AlHashim and Arpan, 1992, p. 32; Most, 1984, p. 307).

Table 3. The cultural value dimensions of a selected number of countries

Cultural value dimensions	France	UK	Australia	USA	Mean Index
Uncertainty avoidance	86	35	51	46	64
Poweer distance	68	35	36	40	51
Individualism	71	89	90	91	51
Masculinity	43	66	61	62	51

Source: Hofstede (1991).

According to Hofstede (1980, 1993), French society would exhibit the scores shown in Table 3 for power distance, individualism, masculinity, and uncertainty avoidance.[9]

Table 3 shows that French society (American society) would exhibit high (low) power distance, relatively high (very high) individualism, medium (high) masculinity and very high (very low) uncertainty avoidance. Hofstede states that "the scores should make us aware that people in other countries may think, feel and act very differently from us when confronted with basic problems of society" (p. 90).

Hofstede (1993) argues that the style of management in France is different form that of the United States. He refers to the findings of a recent empirical work carried out by Philippe d'Iribarne in 1989 explaining the management methods in three subsidiaries of the same French multinational: in France, the United States and Holland. It is argued that, "in France, the principle is the honor of each class in a society which has always been and remains extremely stratified, in which superiors behave as superior beings and subordinates accept and expect this, conscious of their own lower level in the national hierarchy but also of the honor of their own class. The French do not think in terms of managers versus non-managers but in terms of cadres versus non-cadres; one becomes a cadre by attending the proper schools and one remains it forever; regardless of their actual task, cadres have the privileges of a higher social class, and it is very rare for a non-cadre to cross the rank" (p. 84). This argument is supported by Lévy-Leboyer (1976), who states "French business organizations remained somewhat ill adapted. They were highly structured, led by authoritarian managers who demanded from their collaborators strict discipline but no initiative. They decided themselves both the security of any sort of cooperation with their competitors and also the facilities of outside credit – perhaps because they were afraid of losing control, and with it the possibility of handing down the firm to successors of their choice."

These findings are supported by Pinchemel (1988), who provides an excellent description of the French mind. He suggests seven characteristics that would describe the French mind. These are: intellectualism, legalism, individualism, egalitarianism, conservatism, attachment to place, and centralization. In terms of individualism, Pinchemel argues that the "Frenchman is deeply attached to individual initiative and individual responsibility" (p. 182). This is supported by the relatively high score in individualism found by Hofstede (1993). In terms of conservatism, Pinchemel relates this trait to the values of protectionism and malthusianism. He argues that "In the economic field from 1800 onwards protectionism had decreed that France should be a national reservation, shielded from the winds of competition for decades (all still today in certain domains) all government action was directed to the protection of

small-scale enterprise: the small shopkeeper, the small farmer, the small or medium-sized firm. There was no recognition of the inevitibility of change, no response sufficient to minimize its adverse effects" (p. 183). However, he also argues, as shown below, that conservatism is not a permanent trait of the French mind.

Legalism refers to the extent of the legalistic mentality of individuals in a society. Pinchemel quotes Salvadore and Madariaga (1952), saying: "Order in France is imposed from above, although it is accepted from below. It is intellectual, artificial, regulated, prefacing action by a complicated system of rules formulated in anticipation of every possible contingency. ... In order to lessen the gap between the actual situation and the action permitted by law, the French mind inserts an even more subtle network of implementing orders and regulations into the network of the law" (p. 181).

The egalitarian attitude of the Frenchman explains his reliance on state action to achieve equality for all (Pinchemel, 1988). He also states that laws and regulations would encourage routine and inertia and suggests that "To the extent that new situations bring the regulations into question, the principles of the law itself may seem to be challenged: that is why the Napoleonic Code is still the legal dinosaur of twentieth-century France" (p. 181). This also explain the popularity of the PCG in France.

5. Recent Developments in French Accounting Practice

France has recently witnessed many changes in its economic and business environments. Accounting is not a static phenomenon; it changes in response to the changes in the environment it attempts to serve (AlNajjar and Volz, 1991). Hopwood (1974, p. 166) states: "*It is just not true that current or past practice necessarily reflects desirable practice*." The influence of EEC harmonization which began in the late 1970s has recently been felt in France. Also the changes in the environmental characteristics of the French economy have given rise to changes in the needs of French users regarding the provision of accounting information. After being mainly dominated by small firms the French economy has since the 1950s changed substantially. Large corporations have become more prominent (Scheid and Walton, 1988, p. 24). Recently many firms have been obliged to disclose more investor-oriented information to compete in the international capital markets. Parodi (1981) states that, "the accelerated implementation of the European Community treaty from the beginning of the 1960s produced the effects of the opening of a great window through which came the sharp wind of competition. From that moment the restructuring of industrial sector would proceed at a great pace under the double influence of the dynamics of national and international capitalism and the industrial policy of the state." The French financial accounting approach has as a result been substantially modified. A transfer of accounting practices from other countries, mainly Anglo-Saxon countries,[10] to France occurred through channels like the EEC Directives (e.g., true and fair view, consolidation) (Parker, 1985, pp. 75, 83).[11] Since the mid-1980s the EEC Fourth and Seventh Directives have been incorporated into French financial accounting. A transfer of accounting practice occurred from Continental

European countries to Anglo-Saxon countries. For instance, British accounting practice has, as a result of the EEC attempt at harmonization, been pulled towards legal prescription (Nobes, 1990, p. 6). The impact of this transfer on British accounting practices is beyond the scope of this paper.

One of the main British concepts transferred to France through the EEC Fourth Directive is the ill-defined concept of "true and fair" (*image fidèle).* According to the French Accounting Law of 1983, which incorporates the EEC Fourth Directive, financial statements must comply with current accounting principles and show a true and fair view of the net worth, financial position, and results. Any deviation from the true and fair view concept must be disclosed in a note format. Further, firms may depart from the prescribed accounting procedures if this departure is proved to be necessary to present a true and fair view. However, this departure must be disclosed together with its effects on financial statements. This last requirement caused a stir in countries with a legislative tradition such as France (e.g., Pham, 1984, p.114; Gray and Coenenberg, 1984, p. viii). Before the introduction of "true and fair," French auditors were required to report on the conformity of financial statements with "*régularité*" (conformity with legal requirements) and *sincérité* (application of accepted valuation methods in good faith) concepts (Scheid and Walton, 1992b, pp. 154–155).

Exactly whether "true and fair view" has had a serious impact on French financial accounting and reporting is difficult to ascertain from the accounting literature. It seems that the majority of those practicing accounting in France hold the view that this impact will not be serious. The "true and fair" view is an alien concept to the French and has been interpreted in different and often conflicting ways (e.g., Matt and Mikol, 1986). There are some who consider the introduction of the concept simply a matter of terminology. Others see it as an escape from restrictive rules (Pham, 1984, pp. 117; Parker, 1985, pp. 181). According to Pham, most hold the former viewpoint.

One issue which is important in discussions about the "true and fair" view but which seems to have been overlooked in the current literature on harmonization, when this concept was being adopted as an overriding concept in European accounting, is that it does not have a static meaning or interpretation. These have changed over time in line with the changes in the British business environment where it was originally developed. What was transferred to Europe was the current British understanding of the term. The main questions are "What are the likely effects of this concept being misinterpreted in French accounting?" and "How will this concept be interpreted in the future?"

The concept of the "true and fair view" was developed in part to meet the needs of outside shareholders for useful and comparable accounting information (Nobes, 1980, p.2). It was used to stress the need for professional judgment. This concept has been supported mainly by auditors, who make most use of it in practice. It has had a major impact on British financial accounting and reporting and it "can be a powerful means of overriding detailed legal provisions" (e.g., Parker and Nobes, 1991, p. 354). The "true and fair" concept may require a significant departure from the French approach, promoting instead the role of the discretion of management and the accountancy profession.

The impact of the "true and fair view" concept on French accounting is likely to be a matter of form rather than substance. When this concept is filtered through the cultural characteristics of French society, it is likely to be distorted and its impact will probably be insignificant. If Gray's (1988) hypotheses relating accounting to culture (see Section 3) are correct, then the low level of professionalism in French accounting is, as shown in Section 4, explained by the preference of the French for highly centralized bureaucratic structure. "True and fair" depends largely on the professional judgement of the accountant and requires accounts to be drawn on the basis of economic substance rather than legal form (Scheid and Standish, 1989). This can be distorted by the detailed fiscal and legal regulations and would, according to Gray (1988), Perera (1989), and Perera and Mathews (1990), possibly be developed in societies exhibiting small power distance and weak uncertainty avoidance. Hofstede (1987) locates the UK in the higher left-hand quadrant with small power distance and weak uncertainty avoidance, whereas France was located in the lower right-hand quadrant with low tolerance of ambiguity and propensity for developing hierarchical structure. Therefore, the cultural characteristics of British society may explain the development and significance of the "true and fair view" concept in British accounting, and the cultural characteristics of French society may explain the French approach to accounting.

It is possible that compliance with the EEC Fourth Directive requirement of a "true and fair view" by member states may lead to an apparent uniformity that masks unchanged differences. The compliance by French firms with this concept since 1984 involved changes in the law and in audit reports, but the basic assumptions underlying French accounting are still almost the same. Accountants are now required to report economic reality although the application of legal and fiscal rules may distort it (e.g., Most, 1984). Compliance with the above requirements has resulted in additional disclosure of accounting information by French firms.

The implementation of the EEC Fourth Directive brought about other changes to French accounting. The trading account and profit and loss account have become one statement and the contents of the notes to the accounts have become much more detailed (Collins, 1984; Parker, 1985, p. 83). However, the formats of French financial statements are still not easily comparable with those of Anglo-Saxon countries. The Fourth Directive allows for two formats for the balance sheet and four for the profit and loss account. In France only the two-sided balance sheet format and "total output" profit and loss formats are allowed for individual accounts, whereas UK firms can follow any of the Fourth Directive's options (Nobes, 1990). The French format of balance sheet is total assets equal total liabilities plus shareholders equity; in Britain the typical format is fixed assets plus net working capital less long-term debt equal shareholders equity. Under the French formats, assets are presented on the left side and liabilities on the right. These are presented in an increasing order of liquidity. In the British format of balance sheet the equities are listed on the left side and commence with share capital, while liabilities are listed below equity. On the right-hand side assets are listed in descending order of liquidity, starting with fixed assets at the top and the most current at the bottom (AlHashim and Arpan,1992). In France, property and plant and equipment are shown gross with accumulated depreciation; in Britain these are shown net of accumulated depreciation. In the French

income statements cost of goods sold is not given. Instead, firms will disclose operating expense accounts which include depreciation and interest expense. Other operating expenses may not be included but disclosed elsewhere. In Britain, cost of goods sold is given in the income statements and it does not usually include depreciation and interest expense (Bavishi, 1989). Further, Parker (1985, p. 86) provided three reasons for the differences between the French income statement and that of a typical British firm. The first is that French firms provide most of the detail in the face of the statement rather than in the notes, and these are not as extensive as their British counterparts. Second is the emphasis in the required formats on goods produced as well as sold. Finally, while British firms have a choice of formats, French firms are not allowed to use the formats which disclose cost of goods sold, distribution cost and administrative expenses, allowed by the Fourth Directive and most frequently used in the UK.

This argument is supported by the findings of the recent FEE European survey of publish accounts. It was found that "the Fourth Directive is not the only powerful force having a significant influence on accounting ... within the first group of EC countries the accounting treatments other than those related to publication and disclosure differ substantially, which might indicate that the impact of the Fourth Directive is less strong than expected" (FEE, 1991, p. 5).

One of the main impacts of the EEC Seventh Directive is the introduction of consolidated accounting practices to French accounting as explained in section three. There were no legal requirements to publish consolidated accounts until 1983, when a law on market regulation was passed requiring listed firms to publish consolidated accounts starting from 1985. This date was later postponed to 1986 after incorporating the requirements of the Seventh Directive (Pham, 1988, p. 77). This trend has strengthened since the implementation of the Seventh Directive. This has resulted in a substantial decrease in the traditional government control on accounting. Group accounts are to a large extent free from the constraints of tax and legal regulations.

The EEC Seventh Directive does not consider the problem of foreign currency translation (Nobes, 1990, p. 35). The 1986 extension of the plan suggests the use of either historical or closing rates. Research suggests that the majority practice is to translate the balance sheet using the closing rate with resulting differences taken into equity. The income statement is translated using the average rate (Parker, 1985, p. 191). Monetary assets and liabilities in foreign currencies are restated at the balance sheet rate (e.g., Scheid and Walton, 1992b). Other practices are also followed. The British practice of currency translation is regulated by standards (e.g., Nobes, 1989, p. 96). In addition to foreign currency translation the EEC Directives have not dealt with many important issues such as accounting for leases and deferred taxes, (e.g., Van Hulle, 1989b). This might be due to the difficulty to reach consensus on one standard or that these issues have only recently become more important (e.g., Hopwood, 1991).

No doubt as a result of the implementation of the EEC directives, the differences between French practices and Anglo-Saxon practices have been reduced. Other differences might have been created as a result of the influence of countries outside the European Community (e.g., the United States) on accounting practices in both

France and Anglo-Saxon countries. Further, French and Anglo-Saxon accounting systems differ for long-standing deep-seated reasons (Nobes, 1989), which makes the harmonization of accounting practices across these countries very difficult. The directives represent a compromise between the Continental countries with a legalistic tradition and the British "fair value" approach. These directives have been applied in different and often conflicting environments between the various member states. In many cases, mainly those culturally specific issues that are perceived in different ways by different countries (Hopwood, 1991, p. 12), compromise was only possible through the inclusion of options between alternative accounting treatments. This makes harmonization of accounting within the EEC[12] a matter of formality.

The question of whether alternative accountillg treatments will eventually be eliminated is difficult to answer. The recent literature which has examined the part played by culture in the development of accounting systems provides evidence that cultural factors play an important part in molding accounting practices (Pratt and Behr, 1987; Schreuder, 1987). Therefore, resistance to change in accounting practices that are culturally based might be expected unless underlying cultural factors change. The options given with respect to valuation methods is a case in point. Does the requirement of the directives to disclose the use of an alternative valuation method in the notes to the accounts make financial statements of the different member states comparable? The average user may not be able to make the right assessment by combining the information in the financial statements with the information given in the notes to the accounts (see also Van Hulle, 1989b; Gray and Coenenberg, 1984; Nobes, 1980). Options were also given with respect to many important issues, including goodwill, treatment of research and development expenditures, and pension liabilities (e.g., Hopwood, 1991, p.13).

The differences between accounting systems of various countries are partly the result of the differing priorities in different countries which result in different objectives of financial accounting. It is not necessarily the case that the, "true and fair" principle is the correct way of achieving French objectives. It may be that these can be better met through a detailed approach to financial accounting. As Standish (1991, p. 190) states: "the French State shows no sign of relegating the Plan Comptable Général to the dustbin of history. When regard is paid to the many unresolved tensions and difficulties of financial reporting in the English speaking world, it is not at all evident that France has been disadvantaged by its system for accounting standardization on a truly national basis." Both accounting education and professional training in France have been based on the PCG. It may not be easy to accept that what has been learnt in the past is not relevant. It has also been argued (d'Illiers, 1984, p. 405) that it is unlikely that French accountants will change their way of going about accounting practices in the short term.

6. Conclusion

This paper has attempted to identify the main features underlying the French approach to financial accounting, recent changes therein and the relationship between this approach and the cultural and environmental factors prevailing in France. The evidence

suggests that this approach was developed largely independently from other countries. It was argued that because disclosure and valuation practices are different for French individual and consolidated accounts the distinction between the two is very significant in any attempt to understand the French accounting approach. This distinction has so far been overlooked in most of the English language literature on French accounting. Individual accounts are heavily influenced by detailed legislative regulation and tax rules which specify the accounting methods to be used, disclosure requirements, and formats of financial statements. The PCG has been the main source of accounting legislation in France. The input of professional judgment in individual accounts is insignificant, and uniformity is high. Although these factors still characterize consolidated accounts to a lesser extent, many changes have recently occurred, promoting more flexibility and professionalism in these accounts. The main reasons behind this are likely to be the influence of the COB on consolidated accounts and the recent changes in economic and environmental factors in France.

An attempt was made to relate these features to some cultural and environmental characteristics of the French society. Previous literature suggests that French society exhibits strong uncertainty avoidance and large power distance. This appears to be a result of the preference of the French for highly centralized bureaucratic structures. These cultural factors and the pattern of business ownership in France may explain the low level of professionalism, and the high level of uniformity particularly in the case of individual accounts.

Recently, changes have occurred to the environmental, political, economic, and social factors in European countries so that accounting in many of these countries has changed accordingly. A significant two-way transfer of accounting practices and concepts has occurred between Continental European countries and Anglo-Saxon countries. This paper has examined the recent changes in French accounting and their consequences. Some of the changes occurred in respond to recent changes in the French economic, political, social, and business enviromnental factors. For example, previously the French economy was mainly dominated by small, family owned firms. Now large corporations have become more prominent. Also, the impact of the single European economic market on France and attempts at EEC harmonization have been significant. These changes have given rise to changes in the needs of French users regarding the provision of accounting information. Consequently many foreign accounting practices have been transterred to France.

Although the differences between French and Anglo-Saxon accounting systems have recently been reduced, other differences have been created and significant long-standing differences still exist between these systems. These were emphasizd by the EEC directives' inclusion of options for alternative accounting treatments. The question as to whether alternative accounting treatments provided by the EEC directives will eventually be eliminated is difficult to answer.

A possible extension of this paper could be to look at the Continental European influences on British accounting practices. Significant changes have recently occurred in British accounting as a result of changes in the British economic, political, social, and business environmental factors and the EEC attempt at harmonization of accounting practices. There have also been transfers of accounting practices between some European countries and other countries outside Europe. For instance, American

accounting practices have recently been transferred to many countries. The influences of such transfers on national accounting practices have not been fully examined in the current accounting literature.

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Notes

1. The Netherlands is an exception; it has been classified as microbased, heavily influenced by business economic theory (see Nobes, 1989).
2. Previous research used the UK style of accounting as a representative of the accounting systems in Anglo-Saxon countries (e.g., Thorpe, 1990).
3. The 1982 version of the plan provided for the Fourth Directive, which was implemented for the accounting year 1984 according to the Decree of November 29, 1983. The 1986 extension provided for the Seventh Directive to be implemented for listed companies from 1986 and unlisted companies from 1990 according to the Act of January 3, 1985 and the Decree of Febuary 17, 1986.
4. The Wholesale Price Index rose from 16.19 in 1944 to 192.50 in 1958 (1948 = 100).
5. Inflation accounting has been a major obstacle for EEC harmonization of accounting practices, as the position of the member states towards solving this problem varies widely.
6. For a detailed comparison between the various inflation accounting methods and the results of the long-standing debate on inflation accounting, interested readers are referred to Tweedie and Whittington (1984).
7. The number of firms listed in the Paris *Bourse* as of May 1994 is 927. They are in three sections: RM 268, Comptant 400 and Second Marine 259.
8. In their group accounts firms are allowed to depart from the PCG and uses other practices.
9. The scores of the United States, United Kingdom, Australia and the mean index are given for comparative purposes.
10. British accounting practices have also been transferred to other countries outside Europe. Almost all Commonwealth countries use British-based accounting practices (Evans et al., 1988).
11. The analysis here is limited to the Fourth and Seventh Directives as these are the main directices affecting financial accounting (e.g., Nobes, 1985, p. 346). They govern the presentation, content and valuation rules used in companies' accounts and the principles and methods of consolidated accounts for groups.
12. The same argument can also be applied to the harmonization of accounting on a worldwide basis. However, the International Accounting Standards Committee has recently addressed this problem in its exposure Draft number 32, which attempts to reduce the number of alternative options being allowed.

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Financial Distress Models in Belgium: The Results of a Decade of Empirical Research

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Abstract: *In belgium, the first financial distress models were estimated in 1982 by Ooghe and Verbaere. This paper presents an overview of the financial distress studies conducted in Belgium since then. Starting from the early models, the paper describes the research efforts concentrated of the validation of those models, which led finally to the estimation of the second generation of models in 1991 by Ooghe, Joos and De Vos. The paper concludes with some suggestions for further research.*

Introduction

The intention of this paper is to present an overview of the results of the financial distress studies in Belgium between 1982 and 1991, with emphasis on those conducted at the Department of Business Finance of the University of Ghent.

In 1982 Ooghe and Verbaere (hereafter OV) estimated the first financial distress models applicable to Belgian accounts. These models were extensively validated by Van De Velde (1987) and Lisman (1987). Also, a number of additional variables not incorporated in the original models, such as value-added ratios, ratios referring to the phenomenon of accounting cosmetics or concerning protested bills of exchange, and inflation accounting-based ratios, were tested for their information value in the context of financial distress analysis by Van Den Bossche (1985), Flamant (1986) and Declerc et al. (1991). Finally, the results of these research efforts led to the estimation of the second generation of models in 1991 by Ooghe, Joos and De Vos (hereafter OJD).

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The paper is organized as follows. First, a short introduction to the Belgian accounting situation is given. Next the general starting points of both generations of models are given. The following sections deal with the results of OV (1982), Van De Velde (1987), Lisman (1987), Van Den Bossche (1985), Flamant (1986), Declerc et al. (1991) and OJD (1991). Finally, after making an attempt to compare OV (1982) with OJD (1991), the text closes with some remarks concerning recent developments, which can be the basis for further research.

2. The Belgian Accounting Situation

The law of July 17, 1975 outlines the legislative framework of the accounting practice in Belgium (Commississie Voor Boekhoudkundige, 1988). Article 1 of Chapter 1 defines an enterprise as:

(1) individuals carrying on a commercial activity;
(2) commercial companies and civil companies having a legal commercial form;
(3) public organizations having a statutory activity of a commercial, financial, or industrial nature;
(4) any other organization not referred to in (2) or (3), whether having legal personality or not, that carries on any activity of commercial, financial, or industrial nature, for profit or not, to which this chapter is made applicable by royal decree, by category or organization.

However, a distinction is made between large and small or medium-sized enterprises. A small or medium-sized firm does not exceed more than one of the following criteria:

- average number of employees during the period, 50;
- annual turnover, excluding value-added tax, 145 million francs;
- balance sheet total 70 million francs;

unless the average number of employees during the period exceeds 100.

Large firms are obliged to prepare and publish their annual accounts in a complete form. The small and medium sized can choose between preparing their accounts in a complete or abbreviated form. The ratio of complete versus abbreviated annual accounts in Belgium is approximately 1/11. It is important to remark at this point that the models developed by OV only apply to accounts prepared in a complete form, which is obviously a drawback considering the mentioned proportion of abbreviated versus complete accounts.

Finally, it should be noted that not all enterprises are obliged to publish their annual accounts. Those obliged are the large firms and those of the following legal forms:

- limited liability companies;
- company of persons with limited liability;
- cooperative societies;

- partnerships limited by shares;
- general and limited partnerships of which not all partners are individuals.

3. Starting Points

3.1. Practical Instrument for the External Analyst

The estimated models are intended to be practical instruments for the external analyst. The starting point is crucial and has a number of important consequences.

A first consequence is that it was determined to use only quantitative annual account data as input for the instrument, because it is assumed that this is the only form of information which the external analyst can collect in an easy way. This means that no qualitative data, such as competence of management or quality of the organizational structure of the firm, is incorporated in the models.

Another requirement is that all variables can be calculated from a single account. The models built are general models, i.e. not industry specific.

3.2. Definition of Failure

There are several ways of defining the failure of a firm. In general, both economic and legal criteria can be used.

An economical definition implies that a ratio (e.g., Return of Equity) is used to determine the failed group and the non-failing group. Two possible dangers exist when such a criterion is used:

- The criterion is chosen in an arbitrary way (which value of which ratio is used as the "cut-off value"?).
- Every ratio incorporated in the variable battery used in the models which correlates significantly with the "criterion ratio" will be selected as very discriminative (self-fulfilling prophecy).

Because of these difficulties, a legal criterion was used to determine the failed and non-failing subpopulations.[1] A failed firm which went bankrupt or which requested legal protection.

A trader (an individual conducting on a commercial activity) or a commercial firm that has ceased to pay its debts and whose credit is wavering is in a state of bankruptcy, which is a system of settlement of concurring claims on a defaulting debtor. There are two types of compositions: a composition prior to bankruptcy which is an arrangement between the debtor and his creditors in order to avoid actual bankruptcy, and a composition after bankruptcy. This second form is a (legal) arrangement between the bankrupt, his creditors and the court which allows the debtor to pay his debts over a period of time by instalments. In the context of financial distress analysis it is not relevant since the bankruptcy of the firm precedes this second type of composition.

After this general introduction, we proceed in the following section with the presentation of the models estimated by OV (1982).

4. The First Generation: Ooghe and Verbaere (1982)

This section contains the methodology and part of the results of the research study conducted by OV in 1982, which resulted in the first estimation of multivariate financial distress models based on Belgian accounting data.

4.1. Research Data: Population

The population of the failed firms consisted of all firms that became bankrupt or inquired for legal composition during the years 1978–1980. The population of the non-failing firms was formed by all the other business firms. All firms had to draw up there accounts in a complete form. Because of the problem of the availability and comparability of data, OV considered only those enterprises that were amenable to the Royal Decree of October 8, 1976, and that were bound to apply full disclosure requirements in drafting their annual accounts.

As primary data sources, OV used the computer tapes, distributed by the National Bank of Belgium, containing the numerical data of all annual accounts of the fiscal years 1977 and 1978 and a list of all firms that failed during the years 1978–1980.

4.2. Sample Design

To preserve the representativeness of the samples, OV drew their samples in a random way instead of using a matched sampling technique. Most authors in this field of research (see Ooghe et al., 1981–1982) use a criterion (e.g., industry or size) to match the sample of non-failing firms with the sample of failed ones. However, it is possible that the mentioned criteria are explanatory variables for business failure. A possible effect is that the results of the classification analysis based on the matched samples are biased. Furthermore, multivariate matching is difficult to perform, and a sample of non-failing firms constructed on the basis of characteristics of failed ones is most likely not representative for the subpopulation of non-failing firms (see Eisenbeis, 1977; Taffler, 1982).

The size of the samples used is different from the one normally used in other studies (Ooghe et al., 1981–1982). OV selected 753 annual accounts of non-failing firms and 395 of failed firms were collected. This last group was subdivided into three categories: (1) one year before failure (66 annual accounts); (2) two years before failure (214 annual accounts); (3) three years before failure (115 annual accounts). In most studies, samples containing 50–60 observations are used. The use of much larger samples has a positive effect on the external validity of the results.

4.3. Variables

The statistics (see the results presented by CEDRE, 1979 in Ooghe and Van Wymeersch, 1991) show that the main cause for a firm's failure is mismanagement. Constant mismanagement leads to a deterioration of the financial situation of a firm. Therefore, financial ratios based on the annual accounts are chosen as the independent variables in financial distress models. This choice implies that it is assumed that the annual accounts present a fair and true image of the firm's financial situation. Section

5 of this paper shows that an important reason for misclassifications by-financial distress models is the fact that annual accounts do not always fulfill this condition.

In order to select the variables, an integrated ratio model was developed (Ooghe et al., 1981). The basis of this model is liquidity and funds flow. This is mainly because the Belgian Bankruptcy Act is based on the liquidity aspect. However, the aspects of profitability and solvency were also included in the model and differentiated into components as far as possible. The main components are the following (index 0 refers to a balance sheet item at the beginning of the year, index 1 at the end of the year):

= $CASH_0$
\+ GROSS EARNINGS
– (DEBT CHARGES + CURRENT PORTION OF AMOUNTS PAYABLE AFTER ONE $YEAR_0$)
– (DIVIDENDS + DIRECTORS' ENTITLEMENTS + OTHER ALLOCATIONS)
– INCOME TAXES

– [($ASSETS_1$ excl. $CASH_1$ – $ASSETS_0$ excl. $CASH_0$)
  + DEPRECIATION AND AMOUNTS WRITTEN OFF
  + LOSSES ON DISPOSAL OF FIXED ASSETS
  – (REVALUATION $SURPLUS_1$ – REVALUATION $SURPLUS_0$)]

\+ [(EQUITY $CAPITAL_1$ – EQUITY $CAPITAL_0$)
  + SHAREHOLDERS' CONTRIBUTION IN RESPECT OF LOSSES
  – (PROFIT AFTER TAXES + SHAREHOLDERS' CONTRIBUTION IN RESPECT OF LOSSES – DIVIDENDS – DIRECTORS' ENTITLEMENTS - OTHER ALLOCATIONS)
  – (REVALUATION $SURPLUS_1$ – REVALUATION $SURPLUS_0$)
  + INVESTMENT GRANT ACCOUNTED FOR]

\+ [(LONG-TERM $LIABILITIES_1$ – LONG-TERM $LIABILITIES_0$)
  – PROVISIONS FOR LIABILITIES AND CHARGES
  + CURRENT PORTION OF AMOUNTS PAYABLE AFTER ONE $YEAR_1$)]

\+ [(SHORT-TERM $LIABILITIES_1$ – SHORT-TERM $LIABILITIES_0$)
  – (CURRENT PORTION OF AMOUNTS PAYABLE AFTER ONE $YEAR_1$– CURRENT PORTION OF AMOUNTS PAYABLE AFTER ONE $YEAR_0$)]

= $CASH_1$

In addition to the ratios selected by the integrated model, a number of other general liquidity, profitability, and solvency measures, together with ratios selected on the basis of supplemental theoretical considerations, were included. This resulted in a variable set of 144 financial ratios, all of which could be computed from a single annual account.

4.4. Statistical Techniques

4.4.1. Preliminary Analyses

Univariate correlation analysis permitted the removal of a number of highly correlated (Pearson correlation coefficient higher than 0.8) variables from the input battery. Also, a number of variables were removed for computational reasons (e.g., the denominator in the ratio "Overdue short-term priority debts / debts and provisions for taxation, social security and wages" often takes the value 0 and the ratio is therefore omitted).

4.4.2. Multivariate Estimation

OV used stepwise linear discriminant analysis (LDA) based on a minimalization of Wilks' lambda to estimate their models.[2,3] The best LDA model was prepared by a trial-and-error process based on the classifications (in terms of a minimization of misclassifications) as well as on the number of observations in the resulting samples. (Because of the listwise deletion to solve the mentioned computational problem, the inclusion of certain variables in the model has an influence on the size of the samples upon which the models are built. For instance, if one incorporates the ratio provisions for pensions on debt capital in the model, this results in an exclusion of all firms which 'do not use debt capital for the financing of their operations. This exclusion of course harms the representativeness of the samples.)

4.5. Results

OV present four different models (Table 1):

(1) model one year before failure (1YBF);
(2) model two years before failure (2YBF);
(3) model three years before failure (3YBF);
(4) total sample model (TS).

Because of the research objective to construct a practical instrument, OV developed reduced models (RM). The number of ratios in these models was arbitrarily fixed at five. This reduction led to a slight decline in performance of the models when compared with the original models (OM) (which can be seen in Table 2).

After the estimation of the models, it is important to focus attention on the assessment of performance of the models. This can be done by examining the Type I (failed firms classified as non-failing) and Type II (non-failing firms classified as failed) errors. When using the original sample (the sample used in the estimation of the model's parameters) to perform such a test, the results obtained show an upward bias. To eliminate this bias OV applied the jack-knife method (see Lachenbruch, 1975).

For the sake of the external analyst, a number of critical values are given, each with the respective misclassifications. The "optimal" critical value is the one at which the model minimizes the total error rate.[4] This assumes, that the effects of Type I and Type II error rates are additive (Ohlson, 1980). Zavgren (1983) states this procedure is only appropriate if the costs of both types of misclassifications are the same (as explicitly stated by Ohlson (1980) and implicitly assumed by most authors). OV indicate that considerations concerning the misclassification costs are important but mainly the user's concern.[5] By presenting the results of the research in this way, the user can see the distribution of the discriminant scores in the two subsamples.

In the distinct models the financial ratios differ from year to year. However, only 10 ratios appear in the four reduced models. When comparing the performance of the models, we notice that reliability increases as the period between the financial year and the year of failure decreases. The Lachenbruch procedure indicates only a slight bias in the classification results based on the sample method.

Table 1. OV (1982): Variables included in the models

Variable Number[a]	One year before failure				Two years before failure				Three years before failure				Total sample			
	Original model		Reduced model		Original model		Reduced model		Original model		Reduced model		Original model		Reduced model	
	Unstand. coeff.	Stand. coeff.	Unstand. coeff.	Stand. coeff.	Unstand. coeff.	Stand. coeff.	Unstand. coeff.	Stand. coeff.	Unstand. coeff.	Stand. coeff.	Unstand. coeff.	Stand. coeff.	Unstand. coeff.	Stand. coeff.	Unstand. coeff.	Stand. coeff.
9	–	–	–	–	–	–	–	–	0.02	0.19	–	–	–	–	–	–
12	–	–	–	–	0.14	0.20	–	–	–	–	–	–	–	–	–	–
22	–	–	–	–	–0.73	–0.16	–	–	–	–	–	–	–	–	–	–
35	2.51	0.21	2.03	0.18	1.81	0.26	–	–	0.88	0.16	–	–	2.37	0.37	–	–
36	4.83	0.27	4.41	0.25	–	–	–	–	–	–	–	–	–	–	–	–
57	–1.79	–0.13	–	–	–	–	–	–	–	–	–	–	–	–	–0.84	–0.15
62	–48.75	–0.69	–51.34	–0.72	–15.45	–0.46	–16.55	–0.56	–18.04	–0.51	–18.35	–0.58	–10.54	0.43	–11.68	–0.51
67	–	–	–	–	–2.08	–0.26	–1.74	–0.26	–2.44	–0.35	–1.92	–0.31	–2.50	–0.35	–1.62	–0.26
68	–	–	–	–	1.12	0.20	–	–	–	–	–	–	–	–	–	–
69	–	–	–	–	–	–	–	–	–1.18	–0.21	–	–	–.185	–0.27	–	–
86	–	–	–	–	–	–	–	–	–	–	–	–	1.87	0.44	–	–
90	–	–	–	–	–	–	–	–	2.31	0.18	–	–	–	–	–	–
111	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
113	–	–	2.63	0.17	2.73	0.25	3.27	0.35	1.74	0.20	2.36	0.31	4.99	0.42	3.17	0.34
114	–	–	–	–	1.11		0.16	–	–	–	–	–	–	–	–	–
116	–	–	–	–	–	–	–	–	–	–	–	–	–1.91	–0.35	–	–
122	–0.10	–0.11	–	–	–	–	–	–	–	–	–	–0.16	–0.31	–	–	
124	–	–	–	–	–	–	–	–	0.06	0.22	0.06	0.24	–	–	–	–
129	–1.33	–0.11	–	–	–	–	–	–	–	–	–	–	–1.41	–0.23	–	–
131	–	–	–	–	–	–	–	–	–0.94	–0.19	0	0	0	0	0	0
135	8.31	0.35	10.09	0.48	–	–	–	–	–	–	–	–	–	–	–	–
137	–	–	–	–	0.09	0.19	0.07	0.18	–	–	–	–	–	–	–	–
143	4.65	0.16	–	–	–	–	–	–	–	–	–	–	–	–	–	
146	–	–	–	–	2.67	0.31	4.65	0.63	2.79	0.39	3.38	0.56	2.77	0.29	4.32	0.61

[a]Definitions of the variables are given in Appendix 1.

Table 2. OV (1982): Classification results

Critical value	Type I	Type II	Overall	Critical value	Type I	Type II	Overall
Total sample, original model				*Total sample, reduced model*			
0.3783 (optimal)	15.43	27.14	21.29	0.3378 (optimal)	17.18	31.59	24.39
0.000	25.53	18.87	22.20	0.0000	30.77	19.54	25.16
0.0000 (LB)	19.95	29.32	24.64	0.000 (LB)	28.46	20.75	24.61
One year before failure, original model				*One year before failure, reduced model*			
1.3809 (optimal)	2.12	7.83	9.98	1.4970 (optimal)	15.15	6.91	11.03
0.0000	25.76	4.70	15.23	0.0000	30.30	4.52	17.41
0.0000 (LB)	13.64	10.11	11.88	0.0000 (LB)	27.27	4.65	15.96
Two years before failure, original model				*Two years before failure reduced model*			
0.1246 (optimal)	23.30	17.50	20.40	0.4032 (optimal)	14.49	29.44	21.97
0.0000	27.18	15.35	21.27	0.0000	31.88	15.13	23.51
0.0000 (LLB)	16.02	26.97	21.50	0.0000 (LB)	31.88	15.54	23.71
Three years before failure, original model				*Three yeare before failure, reduced model*			
0.5466 (optimal)	12.84	34.35	23.60	0.6085 (optimal)	9.57	45.65	27.61
0.0000	34.86	16.97	25.92	0.0000	46.96	15.80	31.38
0.0000 (LB)	20.16	27.96	24.07	0.0000 (LB)	43.48	16.20	29.84

(LB): result of the Lachenbruch jack–knife procedure.

So far only the internal validity of the models has been discussed. It is of course essential to evaluate the external validity if one wants to provide the user with a reliable instrument. Even more important is the question whether the model is stable in time. This stability concerns variables and parameters and is one of the subjects of the next section.

5. The Problem of Misclassifications

In this section attention is focused on two research studies as to the misclassifications by the OV model, conducted by Van De Velde (1987) and Lisman (1987). Both authors applied the model on a sample of annual accounts of the fiscal year 1982. Both randomly drew two subsamples of failed and non-failing firms: Van De Velde investigated 84 failed and 45 non-failing firms; Lisman investigated 40 failed and 100 non-failing firms. The enterprises were amenable to the Royal Decree of October 8, 1976 with full disclosure requirements in drafting their annual accounts.

This use of 1982 data on the OV model, which was constructed using annual accounts of the fiscal years 1977 and 1978, gives the researchers the opportunity to test the model for intertemporal stability; the results reached give an insight into the predictive accuracy of the model (Altman et al., 1977, footnote 16). A lack of stability can cause misclassifications. However, if the model proves to be fairly stable, other causes of error must be sought.

5.1. Intertemporal Stability

Van De Velde tested the reduced total sample model. The original critical value analysis, as performed by OV, is presented in Table 3.

The optimal critical value is the one where the unweighted mean of F and L is minimal, in the case 0.3378.

Van De Velde first performed critical value analysis using the original list of cut-off values, on the 1982 samples. This type of analysis allows detection of possible changes in the distribution of both failed and non-failing groups and thus indicates the level of stability. The results are presented in Table 3.

Overall, the error percentages show the same distribution of scores for both samples. The deviations between the old and new samples are more distinct for the Type I errors. This is understandable since these groups contain fewer observations so that the influence of random coincidences is larger (see below). When comparing the results, it can be seen that the dispersion of scores for both groups has become larger. However, this deterioration at the extremes of the distributions is not as important as the performance of the models for the middle group of scores, the so-called grey area. In general, the models seem to be less conservative when classifying the new samples. Van De Velde concluded that the model is relatively stable and therefore is fairly accurate in a predictive sense.

Next, to sense the reliability of the classification accuracy, a new series of critical values and the related unweighted means of the misclassification errors are computed. The lowest error percentage for the new samples is reached at a cut-off value of 0.3334 (slightly lower than the original optimal critical value of 0.3378). Table 4 shows the results of the new critical value analysis.

When using the new sample and the new critical values, the total error percentages show that the classification accuracy of the model is somewhat lower than in the case of the old sample. However, overall the conclusion is that the model possesses a great intertemporal stability; a model with great predictive accuracy also has great classification accuracy.[6]

5.2. Explanation of Misclassifications

In the previous paragraphs it was illustrated that the OV models are fairly stable. Thus Van De Velde and Lisman searched for other causes to explain the misclassifications. They both evaluated the reduced models 1YBF and 3YBF by closely

Table 3. Van De Velde (1987): classification results –original critical values, original (OV) and new (Van De Velde) samples

Crit. Val.	Type I = F (1)		Type II = L (2)		100 – 1		Mean (1)+(2)/2	
	Or.S.	New S.	Or. S.	New S.	Or. S.	New S.	Or. S.	New S.
2.5854	0.0	1.6	91.6	88.7	8.4	11.3	45.8	45.2
0.8646	5.1	8.0	52.1	54.0	47.9	46.0	28.6	31.0
0.6326	10.0	12.2	43.5	46.0	56.5	54.0	26.8	29.1
0.3378	**17.2**	**20.5**	**31.6**	**33.1**	**68.4**	**66.9**	**24.4**	**26.8**
0.1760	25.9	31.1	26.0	26.0	74.0	74.0	26.0	28.6
0.0000	30.8	39.1	19.5	20.4	81.5	79.6	25.2	29.8
–0.4512	45.6	57.1	9.9	11.8	90.1	88.1	27.8	34.5
–1.0013	62.3	76.9	5.1	6.6	94.1	94.9	33.7	41.8
–3.6199	93.6	94.9	0.0	1.4	100.0	98.6	46.8	48.2

Table 4. Van De Velde (1987): New critical value analysis

Crit. Val.	Type I	Type II	Mean
3.4322	0.64	95.44	48.04
2.6759	1.28	89.75	45.41
1.9240	3.19	79.53	41.36
1.4040	4.15	69.28	36.72
1.0187	7.35	59.10	33.22
0.7167	11.18	48.93	30.06
0.4648	16.61	38.80	27.71
0.3334	**20.77**	**32.87**	**26.82**
0.2486	27.16	28.83	27.99
0.0000	39.30	20.40	29.85
0.0650	42.17	18.97	30.57
–1.06497	66.77	9.37	38.07
–1.3830	82.11	4.69	43.40

investigating a number of misclassified firms, both failed and non-failing. They concentrated on the most important legal centres in Belgium: Van De Velde on Brussels, Antwerp, and Ghent; Lisman on Brussels, Liège, and Charleroi.

The methods of inquiry used in the distinct regions differ somewhat, but are mainly as follows:

- The misclassified non-failing firms were examined using information available at the Commercial Court (in Brussels) or using the firm dossiers.
- The misclassified failed firms were examined by interviewing the trustee handling the bankruptcy proceedings (personal interview or mail survey).

The following summarizes the results of both studies.

5.2.1. Van De Velde (1987)

The starting point in Van De Velde (1987) is that, when a firm is misclassified by a model, the obvious reason is that the information the model draws from the annual accounts does not reflect reality. Therefore two factors might be responsible for the error made:

(1) The annual account does not present a fair and true view of the firm's financial situation.
(2) The model is unadapted to certain important factors concerning the situation of the firm; put otherwise: not all relevant information is considered by or incorporated in the model.

She summarizes the possible causes for both types of misclassification as follows:

(1) Type I errors

(a) The first series of mistakes are those concerning the timing of the prediction. The score clearly shows the firm is in possible danger, but the elements incorporated in the model are not the direct cause of the failure. The exact moment of this occurrence often is determined by factors external to the model. To name a few: group relations, bankruptcy of third parties whose debts were guaranteed by the firm, cut-off by financial institutions of certain credit facilities, interest rate or exchange rate evolutions,

and structural crises in a number of industries. It should be noted that a few of these external factors, *mutatis mutandis*, also played a significant part in the Type II errors.

(b) A second kind of mistake occurs when the models fail to predict the failure. In most of the cases this is due to the fact that the models do not incorporate the relevant information needed to judge the financial situation.

(2) Type II errors.

(a) The "negative" profitability measures: Van De Velde notes that these ratios suffer the most from the fact that the annual account is a snapshot of the firm's financial situation at a given date; this snapshot may show a possible, temporary adverse situation. Another misclassification occurred when the firm was indeed confronted with serious problems in 1982 but these are resolved by drafting and implementing a recovery program. Finally, a third possibility is the situation where a firm is faced with real problems which are not resolved, but where the liquidity position has not yet deteriorated in such a way that the firm is forced into bankruptcy.

(b) The ratio "overdue short-term priority debts on short-term liabilities" is often of little relevance. This ratio is very important in the models due to its coefficient. However, in the cases where these overdue debts existed, the firm either came to an agreement with the institution involved, or used these debts as a form of financing, or was able to pay the overdue debt within a very short notice of time.

(c) The ratio "stock goods in course of production, waste products, and finished products on current working assets" appears to be hardly relevant in some instances. Van De Velde concludes that the model 3YBF is unadapted for use in cases where high stocks are a structural characteristic of the Industry.

Table 5 gives an idea of the frequency of occurrence of the different causes of misclassification. It should be noted that in many cases a combination of reasons causes the misclassification. Unfortunately, Van De Velde does not present the discriminant scores of the misclassified firms.

Van De Velde also reports on some regional differences between the discovered reasons of misclassification. Furthermore, it became apparent from the interviews with the trustees and from the examination of the selected accounts that the representativeness of these documents – in other words, the reflection of the fair and true view of the firm's situation – is inadequate in most cases. In fact, in some firms plain fraud and manipulation were discovered.

5.2.2. Lisman (1987)

Lisman develops a typology of misclassification causes. He believes errors occur because of five possible reasons (ordered in a hierarchy):

(1) The model misclassifies because of a lack of information. For example, the models do not incorporate information on the environment in which the firm operates or on qualitative elements (e.g., competence of managers).

(2) The cause of error is the fact that the model works with inexact information. The annual accounts are possibly manipulated in order to present a more positive

Table 5. Van De Velde (1987): frequency misclassification causes

Causes	Type I	Type II
Profitability		
Group relation	8	20
Reorganization	–	29
Timing	20	15
Liquidity	–	4
Unadapted	30	24

view of the firm. Apart from the element of fraud, Lisman reports manipulations concerning stocks, amounts receivable, revaluation surpluses, and activated costs.

(3) The model uses exact but partial information. Here Lisman refers to:

(a) aggregated character of information:

- The influence of exchange rate evolutions on the results.
- The presence of "other amounts receivable". In most cases this balance sheet item contains many amounts the company has to receive from directors. Because of the exceptional character of these amounts, Lisman suggests deducting them from the equity capital.
- "Other amounts payable". These are mainly debts guaranteed by the directors or dividends to be paid. In this way, they can be treated as a prolongation of the equity capital.

(b) Partial character of information:

- This involves the problem of the group relation. The relation with the parent firm and the daughter entity can either cause or prevent a failure. For example, different types of support are possible: equity participation, subordinated loans, other amounts payable, amounts receivable, and guarantees.

(4) The model disposes of exact and complete information but does not use it. The model does not incorporate information of the evolution of the discriminant score. This evolution should be studied in a careful way. Lisman refers to Taffler (1983) and his Performance Analysis Score concept.

There are only two ratios concerning value-added included in the model. Because of the important economic significance of the value-added concept, Lisman suggests adding a series of VA ratios to the model. The absence of these ratios in the OV model has a statistical origin: the dispersion of the VA ratios is too large for the ratios to be included in the model. However, VA ratios provide much information. A firm is in serious trouble when the costs cannot be covered (the firm is unable to create enough value added). By analyzing the components of the value added, one gets insight into certain (dis-)proportions in costs: personnel charges, debt charges, and depreciation.

Lisman also believes the model does not use the information disclosed in the notes with respect to the "rights and commitments not reflected in the balance sheet".

(5) Finally, the model disposes of exact and complete information, which it uses, but in a wrong way. Lisman believes the models attach too much importance to

> the liquidity ratio, concerning the overdue short-term priority debts, whereas they practically ignore, the information given by the solvency measure "equity capital on total liabilities". He proves this by showing that, when considering the Type I error, 30 apparent undercapitalized[7] firms are misclassified on one or two models. When dealing with the Type II errors, overcapitalized firms are classified as failed.

A second element relates to the above-mentioned ratio on overdue debts. Because of the snapshot character of the ratio-analysis, the model is too categorical in judging the firm on the basis of this ratio (see Van De Velde on the relevance of this ratio). The model does not consider the exact time period this debt is overdue. Lisman therefore suggests modifying this ratio to express the delay of payment by the firm.

A final remark concerns the stock ratio. This ratio is very important in model 3YBF. In reference to the optimal value of the classification results, 26 percent of the annual accounts are misclassified. The majority of these mistakes is caused by this particular ratio. In order to avoid these errors, Lisman again suggests a modification: he calculates the difference between the balance sheet items, "Advances received on Contracts In Progress" and "Stock and Contracts in Progress." He thus considers the liability item as a means of financing the asset item. If the result is positive, he interprets this as follows: the result is a means of financing the business cycle or is the profit margin on the Contracts in Progress. In this case, both, items are balanced and the result is divided between "Accumulated Profits" and "Taxes" on the liability side of the balance sheet. The exact division is determined by the tax rate. If on the other hand the result is negative, one can consider this as provision for charges and liabilities. The advances are deducted from the stocks and the tax proportion of the result is listed under "Taxes".

Although Lisman derived his typology from his empirical research, he does not present any frequency of occurrence of the different types of misclassification causes, nor does he give the discriminant scores of the misclassified firms. Therefore, it is not possible to illustrate quantitatively the typology of causes he describes.[8]

6. Adopt, Adapt and Improve?

Whereas both Van De Velde (1987) and Lisman (1987) tested the original OV models for stability and causes of misclassifications, Van Den Bossche (1985) and Flamant (1986) attempted to modify the original models by incorporating additional elements of information, not dealt with by OV, in their models.

Both researchers used data of the fiscal year 1980. Van Den Bossche selects 336 annual accounts of failed firms and 365 of non-failing ones, selected as a systematic sample. Flamant works with a sample of 323 observations of failed firms and 339 of non-failing ones, also selected systematically. They both subdivided the failed group in three categories: one year before failure (1YBF), two years before failure (2YBF) and three years before failure (3YBF). The ratios they used were largely selected because of their popularity in the literature, the importance in the models developed by OV, and the concepts upon which the Belgian Bankruptcy Act is based.

Van Den Bossche (1985) adds two categories of ratios to his model, namely value-added ratios and ratios concerning protested bills of exchange. Special attention is given to ratios which reflect accounting cosmetics. These ratios are comprised of elements, such as formation expenses, intangible assets, deferred and accrued charges and income, revaluation surpluses, and depreciations. All variables can be calculated from a single annual account, apart from the data concerning the bills of exchange.

Flamant (1986) investigated whether inflation-corrected accounting data improve the performance of failure prediction models.[9] In order to test this relevance of inflation-corrected data, he performed some (partial) corrections on the samples of annual accounts (a limited number of items was corrected, namely tangible fixed assets (+ depreciation) and stocks (+ cost of sales). He incorporates general as well as specific price changes, i.e., the constant money/current cost approach. The inflation corrections have an impact on the definitions of the financial ratios incorporated as independent variables in the models. Flamant therefore defines the ratios before and after corrections. In both studies, the models were estimated using LDA and the results concerning the "special" categories of variables are very poor.

Van Den Bossche concludes that the variables concerning value added accounting cosmetics and protested bills of exchange, do not improve the classification ability of the models. This means that the aspects of information/provided by these ratios are already included in the models via other ratios. For example, the liquidity information present in the bills of exchange variables is also incorporated in other ratios like those concerning overdue short-term debts.

Flamant concludes that inflation corrections do not lead to better or more accurate prediction of failure. Although it is generally accepted that inflation corrections provide "more relevant" information, this relevance does not seem to improve the classification accuracy of the prediction models. He adds that this is not a great surprise since some of the corrections can lead to a smaller difference in financial structure between failed and non-failing firms.

The classification results of Van Den Bossche (1985) and Flamant (1986) are compared with those of OV in Table 6. The results in this table were calculated at the level of the "optimal" critical value using the original samples. It must be noted that for the different models these optimal critical values are not the same.

The table shows that the OV model gives the best results. This means that the information elements, explicitly added by Van Den Bossche, do not improve the classification accuracy of the models. The reasons why the inflation-corrected models give less adequate results are outlined above.

More recent research by Declerc et al. (1991) also investigated the predictive ability of value-added ratios in failure prediction models. Using data of the fiscal years 1985 and 1986, they selected 231 companies: 69 went bankrupt in 1987 or 1988, and 162 non-failing firms. Those numbers of companies were obtained after the elimination of incomplete accounts, erroneous accounts, and accounts which stated a negative value added.

Declerc et al. constructed two types of LDA models: the "pure models", which contained only value-added ratios, and the "mixed models". These latter models were constructed by replacing one or two of the balance sheet ratios of the OV model by the most significant value-added ratios.

Table 6. Summary of classification results[a]

	OV		Van Den Bossche		Flamant	
Model	OM (%)	RM (%)	OM (%)	RM (%)	CM (%)	ICM (%)
TS	78.7	75.6	–	76.1	76.3	76.1
1YBF	90.0	89.0	–	85.0	87.4	83.9
2YBF	79.6	78.0	–	77.5	77.2	75.4
3YBF	76.4	72.4	–	77.3	77.9	75.4

[a]OM = original model; RM = reduced model;
CM = conventional model; ICM = inflation corrected model.

On the basis of a jack-knifed classification, they concluded that the "pure models" did not perform better than the OV model. As for the the "mixed models", on the other hand, they found that the value-added ratios provide a significant increase in the classification ability of the model. So, in contrast to the study of Van Den Bossche, Declerc et al. state that the value-added ratios contain additional information to the classic balance sheet information.

The experience gained at the University of Ghent in estimating the first generation of financial distress models and the lessons learned from the subsequent research into the causes of misclassifications and the information value of a number of additional variables resulted in the estimation of the second generation of models in 1991 by OJD (1991). These are discussed in the next section.

7. The Second Generation: Ooghe et al. (1991)

The starting points of the estimation process for this second generation of general financial distress models based on Belgian accounting data are given in Section 3. However, this time relatively more effort and time were spent with respect to the evaluation and validation issues of the estimated financial distress models. Additionally, much more attention was given to the presentation of the results computed by these instruments. In the following sections, an overview of the methods and results of this study is given.

7.1. Research Data: Population

The specification of the two subpopulations was done in a more refined way than in OV (1982)

(1) A failed firm is in a legal situation of bankruptcy or inquiry for a legal composition.

(2) A non-failing (NF) firm –a firm not in any of the following legal situations:

- termination of activity without legal dissolution;
- liquidation–dissolution not followed by fusion or absorption;
- liquidation–dissolution followed by fusion;
- liquidation–dissolution followed by absorption;

- composition by abandonment of assets;
- closing of liquidation;
- inquiry for legal composition;
- official approval of legal composition (except abandonment of assets);
- bankruptcy.

In this way those firms which cause doubt as to the economic reason of their legal situation are excluded from the group of non-failing firms in order to obtain a pure group. In addition, it was required that the non-failing firms are still non-failing at least three years after the closing date of the annual account.

The population, from which the design and validation samples of failed companies and non-failing companies are drawn consists of annual accounts closed between January 1, 1985 and December 31, 1990. It concerns published annual accounts prepared both in the complete and the abbreviated form, of which the model is included in the annexes of the Royal Decree of August 7, 1983 on the publication of documents of corporations and companies, as modified by the Royal Decree of December 30, 1987.[10] These are annual accounts of non-financial companies subject to the Royal Decree of October 8, 1976 on the annual accounts of companies. An important improvement is that the abbreviated accounts are also incorporated in the population, which was not the case with OV (1982).

7.2. Sample Design

Two types of samples were selected: design and validation samples. The design samples consisted of randomly (no matching) drawn accounts in each subpopulation from the period 1985–1988: 1 YBF, 185 accounts; 3YBF, 167 accounts; NF, 438 accounts. The validation samples were drawn from the period 1987–1990 and consisted of 114 observations 1YBF, 118 3YBF, and 177 NF.

In selecting the accounts for the samples, the low quality of Belgian annual accounts became apparent; the accounts contain many errors (mostly arithmetic ones, but also errors of inconsistency between the different parts of the account). It was not possible simply to omit all the accounts with errors since this would introduce a serious selection bias in the samples (Zmijewski, 1984). Therefore, all selected accounts were corrected for errors as much as possible. This was done for both design and validation samples.

7.3. Variables

The variable selection was conducted in a different way than in OV (1982). Whereas OV computed a large number of detailed ratios as possible input for the multivariate models, OJD decided to limit the variable battery to a smaller number of robust ratios selected according to some theoretical guideline. This procedure was followed because the studies in Section 5 showed that detailed ratios are responsible for a number of misclassifications.

Also, an evolution in the types of variables included in the variable battery occurred; whereas the variables of OV were limited to financial ratios based on annual accounts, OJD went further using flow variables. This agrees with recent research, in which it is stated that cash-based funds flow components have a better discriminating ability between failing and non-failing firms than financial ratios, which means that models using funds flow variables are better failure predictors than the classical ratio-based models (Gentry et al., 1987; Aziz and Lawson, 1989; Gilbert et al., 1990). These authors reject prior statements, indicating that cash flow variables provide no additional information in bankruptcy prediction (Casey and Bartczak, 1985; Gombola et al., 1987). Finally, OJD also made use of variables reflecting information derived from the account (e.g., the publication lag, i.e., the period between the closing date and the publication of the account). So, three types of variables were included in the variable battery: accrual accounting-based variables, flow variables, and derived information variables.

The theoretical guideline that directed the variable selection was based on the operational cash flow table. The starting point was that there are two basic types of failed firms: the older one, faced with profitability problems (declining turnover, excessive personnel charges, etc.) and unable to adapt or to recover; and the young, fast-growing and overinvesting firm.

7.4. Statistical Techniques

7.4.1. Preliminary Analyses

Before applying the multivariate estimation techniques, univariate analyses were performed. The univariate distributions of the variables were investigated and, to enhance the univariate normality, univariate outliers were removed from the design samples using the truncation method; observations with values more than three standard deviations away from the mean for certain variables were removed from the samples. The final design samples, used for estimation, contained 150 observations of 1YBF, 118 3YBF and 347 NF. Obviously, this truncation procedure was applied to the validation samples. Furthermore, the univariate correlation matrix was computed to detect groups of highly correlated variables. This enabled the avoidance of highly correlated variables being included in the multivariate models.

7.4.2. Multivariate Estimation

LDA and LR models were estimated SPSS/PC+ V4.0.[11] Because the LR models gave the best results, attention is focused on them. The estimation process was performed following a stepwise trial-and-error procedure. It was ensured that no highly correlated variables were included in the models.

In the estimation phase, the quality of the models was evaluated using a statistical criterion; maximum likelihood estimation process was evaluated with the Pearson goodness-of-fit chi-square. The score statistic determined the number of incorporated variables; in the model 1YBF, eight variables were included and in the model 3YBF six.

7.5. Evaluation Procedure and Results

In most financial distress studies two methods have been used to evaluate LDA or LR models, statistical evaluation (e.g., in the case of LDA the test of the difference between group means) and determination of the classification accuracy based on a certain cut-off value. Ooghe et al. (1992) describe the problems associated with these methods and suggest the use of a new evaluation method. This method is based on a number of premises, which are outlined below.

(1) The score computed by LDA or LR models is an aggregated risk index. Depending on the variables included in the discrimination function, it provides in a single number the summary of the financial situation of the company. The interpretation is simple: firms with a higher score are considered riskier than those with a lower score.
(2) The distributions of the scores for the failed and the non-failing accounts give interesting information to evaluate the "quality" of the model. A good model separates these two distributions as much as possible; the group overlap is reduced to a minimum.
(3) The classification and evaluation procedure of the models should be relevant or adapted to the use of the models. It is necessary as a researcher to get a good idea of how the intended user is going to apply the models in practical decision situations. Because it is assumed the user is interested in positioning or classifying the firm he or she is analyzing, information as to the classification precision of the estimated models associated with each set of cut-off values to be used (see below) should be given.
(4) The important question is therefore: how are the financial distress models used in practice? It is believed the instrument is basically used as a screening instrument; the user wants to get a first idea of the financial situation of the firm in an efficient way. Therefore it is appropriate to use a procedure which distinguishes three types of firms: "good" firms, "bad" ones, and "grey" ones. The two former types have distinct risk profiles, as expressed by considerably low or high scores. The latter type of firm is situated in between; in this case the financial situation is not totally clear and therefore warrants further study.
(5) The researcher should not take decisions for the user with respect to misclassification costs. Instead the classification and evaluation method has to be as flexible as possible, i.e., it should allow the models to be used in different decision contexts with different loss functions.
(6) Because of the screening character of the instrument, the results should allow the user to position the firm being analyzed in reference groups of both failed and non-failing firms. Therefore the rank information of the scores is used and not the absolute scores *per se*.

The method proposed assesses the precision of the models by examining the (group) overlap between the distributions of failed and non-failing scores, both for design and validation samples. After computing and ranking the scores for the observations in the samples, two cut-off values are determined. The first one is based on the

ranking of the scores of the non-failing companies and the second is based on the ranking of those of the failed companies. The zone of scores between these two cut-off values is the so-called grey area.

The crucial point is of course how these cut-off values are chosen. This is done in a flexible way. In a situation where the non-failing group is given lower scores than the failed one, the classification rule, given a certain cut-off value, is: classify a company as failed if the score is higher than the cut-off and as non-failing if the score is lower than the cut-off..

In the failed group, the first reference value is the lowest score reached by a failed company; the second is the score which, if used as a cut-off, misclassifies 5 percent of the failed companies; the third which misclassifies 10 percent failed companies; and so on. The same thing is done for the non-failing group, only here one works with the highest values. Next, the chosen values are used reference to the other group. For example, suppose the lowest failed score is x. Using x as a reference under which every company is classified as non-failing, the number and the percentage of non-failing companies with a score lower than x is determined. This is the percentage of correctly classified non-failing companies when using x as the cut-off value. The percentage is calculated with respect to the total number of companies in the subsample. If in the non-failing group score y is the largest, then the number and the percentage of failed companies with a score higher than y can be computed. This is the percentage of correctly classified failed companies if y is used as a cut-off value above which every company is classified as failed in this case, where the two cut-off values are at the extremes, the grey area consists of all the companies in the failed group with a score lower than y and all companies in the non-failing group with a score higher than x. This is the situation with the largest possible grey area. However, all companies in both groups which are not in the grey area are classified correctly (100% precision). This situation is illustrated in Fig. 1. The figure is based on the information provided in Tables 7 and 11.

The figure shows the following elements:

(1) The two vertical straight lines represent the rankings of the scores in the failed (in this case one year before failure (1YBF)) and the non-failing group (NF). In both cases the largest and smallest scores are given (from Table 11).

(2) The percentages indicate for each group the number of companies in the grey area, the number correctly classified and the number misclassified (error allowance) (as given in Table 7). For example, in Fig. 1, 22.67 percent failed companies are correctly classified and 77.33 percent are in the grey area. The corresponding numbers in the non-failing group are 34.87 percent and 65.13 percent.

If one allows for a number of mistakes, the reference values are changed to allow for a certain percentage of errors. Suppose x is the score which misclassifies 5 percent the failed group (i.e., 5 percent of the failed companies have a lower score than x) and y is the score which misclassifies 10 percent of the non-failing group. Again, both the number and percentage of correctly classified failed and non-failing companies, if x and y are used as cut-off, can be determined.

The grey area consists of the companies with a score between x and y. In the respective groups, the percentages of companies in the grey area can be determined:

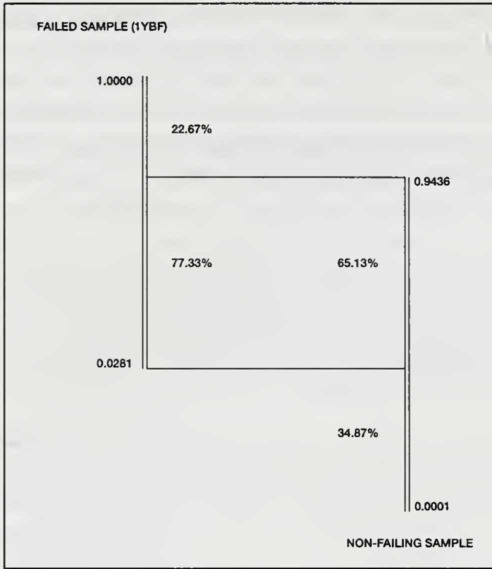

Fig. 1. OJD (1991): one year before failure – design samples, precision and grey area. Error allowances: NF = 0.00 percent; 1YBF = 0.00 percent.

for the non-failing group this gives 100 percent – 10 percent allowance – percentage with a score lower than x; for the failed group 100 percent – 5 percent error allowance – percentage with a score higher than y. This situation is illustrated in Fig. 2.

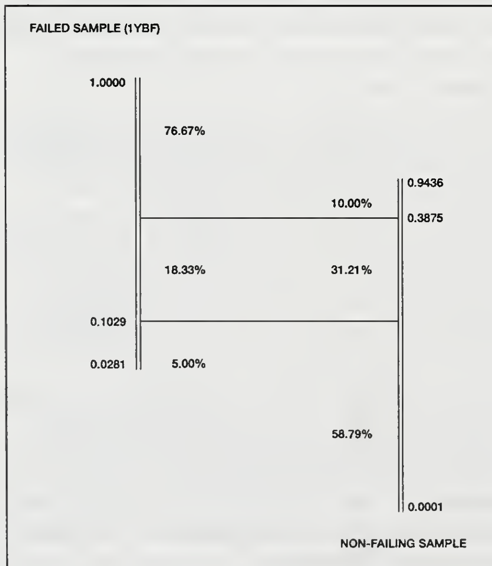

Fig. 2. OJD (1991): one year before failure – design samples, precision and grey area. Error allowances: NF = 10.00 percent; 1YBF = 5.00 percent.

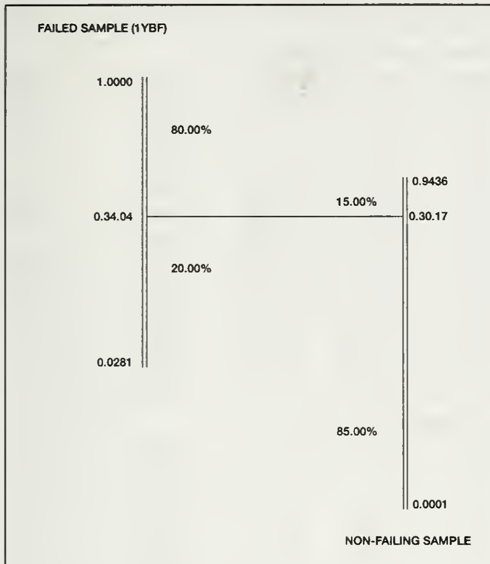

Fig. 3. OJD (1991): one year before failure – design samples, precision and grey area. Error allowances: NF = 15.00 percent; 1YBF = 20.00 percent.

Finally, when the allowances become very large in both groups, the grey area approaches 0 percent in both groups as shown in Fig. 3.

The method can be used to evaluate models in a simple way: for a pair of cut-off values x and y, the best model gives the largest percentage of correctly classified companies and the smallest percentages of companies in the grey area. The smaller the error allowances necessary to reach a grey area of 0 percent, the smaller the group overlap and thus the better the model.

An advantage is that the method can be used both for LDA and logit models and for design and holdout samples. The method also gives interesting information for the (external) user who attaches more importance to one type of error over the other. The user gets information as to the precision of the model at risk-levels relevant in his or her decision situation. This information is summarized in Tables 7–10.

The interpretation is straightforward. Every table consists of two parts: the first gives the results for the non-failing subsample, the second for the respective failed subsamples. Every part of the table contains 36 cells, each pertaining to a combination of error allowances in both subsamples. Six error allowance levels are given in each subsample.

In every cell, the percentage correctly classified companies (CORRECT) and the percentage of companies in the grey area (GA) are given. For example, in Table 9 the upper left corner cell in the first part of the table contains the percentages in a situation where the error allowances in both groups is 0.00 percent. The results indicate that with this combination 21.04 percent of the non-failing sample are classified correctly and 78.96 percent of the non-failing companies fall in the grey area. Of course, the higher the first number the lower the second. The sum of both percentages

Table 7. OJD (1991): One year before failure –design samples, precision and grey area

		Non-failing sample: design sample (%)					
1YBF	NF	0.00	5.00	10.00	15.00	20.00	25.00
0.00	Correct	34.87	34.87	34.87	34.87	34.87	34.87
	GA	65.13	65.13	55.13	50.13	45.13	40.13
5.00	Correct	58.79	58.79	58.79	58.79	58.79	58.79
	GA	41.21	36.21	31.21	26.21	21.21	16.21
10.00	Correct	73.49	73.49	73.39	73.49	73.49	73.49
	GA	26.51	21.51	16.51	11.51	6.51	1.51
15.00	Correct	83.29	83.29	83.29	83.29	80.00	75.00
	GA	16.71	11.71	6.71	1.71	0.00	0.00
20.00	Correct	87.32	87.32	87.32	85.00	80.00	75.00
	GA	12.68	7.68	2.68	0.00	0.00	0.00
25.00	Correct	90.49	90.49	90.00	85.00	80.00	75.00
	GA	9.51	4.51	0.00	0.00	0.00	0.00

		Sample 1 YBF: design sample (%)					
NF	1YBF	0.00	5.00	10.00	15.00	20.00	25.00
0.00	Correct	22.67	22.67	22.67	22.67	22.67	22.67
	GA	77.33	72.33	67.33	62.33	57.33	52.33
5.00	Correct	62.67	62.67	62.67	62.67	62.67	62.67
	GA	37.33	32.33	27.33	22.33	17.33	12.33
10.00	Correct	76.67	76.67	76.67	76.67	76.67	75.00
	GA	23.33	18.33	13.33	8.33	3.33	0.00
15.00	Correct	82.67	82.67	82.67	82.67	80.00	75.00
	GA	17.33	12.33	7.33	2.33	0.00	0.00
20.00	Correct	87.33	87.33	87.33	85.00	80.00	75.00
	GA	12.67	7.67	2.67	0.00	0.00	0.00
25.00	Correct	89.33	89.33	89.33	85.00	80.00	75.00
	GA	10.67	5.67	0.67	0.00	0.00	0.00

Table 8. OJD (1991): One year before failure – validation samples, precision and grey area

		Non-failing sample: validation sample (%)					
1YBF	NF	0.00	5.00	10.00	15.00	20.00	25.00
0.00	Correct	6.47	6.47	6.47	6.47	6.47	6.47
	GA	93.53	88.53	83.53	78.53	73.53	68.53
5.00	Correct	61.76	61.76	61.76	61.76	61.76	61.76
	GA	38.24	33.24	28.24	23.24	18.24	13.24
10.00	Correct	65.88	65.88	65.88	65.88	65.88	65.88
	GA	34.12	29.12	24.12	19.12	14.12	9.12
15.00	Correct	76.47	76.47	76.47	76.47	76.47	75.00
	GA	35.53	18.53	13.53	8.53	3.53	0.00
20.00	Correct	81.76	81.76	81.76	81.76	80.00	75.00
	GA	18.24	13.24	8.24	3.24	0.00	0.00
25.00	Correct	84.12	84.12	84.12	84.12	80.00	75.00
	GA	15.88	10.88	5.88	0.88	0.00	0.00

		Sample 1YBF: validation sample (%)					
NF	1YBF	0.00	5.00	10.00	15.00	20.00	25.00
0.00	Correct	0.00	0.00	0.00	0.00	0.00	0.00
	GA	100.00	95.00	90.00	85.00	80.00	75.00
5.00	Correct	63.30	63.30	63.30	63.30	63.30	63.30
	GA	36.70	31.70	26.70	21.70	16.70	11.70
10.00	Correct	70.64	70.64	70.64	70.64	70.64	70.64
	GA	29.36	24.36	19.36	14.36	9.36	4.36
15.00	Correct	74.31	74.31	74.31	74.31	74.31	74.31
	GA	25.69	20.69	15.69	10.69	5.69	0.69
20.00	Correct	82.57	82.57	82.57	82.57	80.00	75.00
	GA	17.43	12.43	7.43	2.43	0.00	0.00
25.00	Correct	85.32	85.32	85.32	85.00	80.00	75.00
	GA	14.68	9.68	4.68	0.00	0.00	0.00

Table 9. OJD (1991): Three years before failure – design samples, precision and grey area

		Non-failing sample: design sample (%)					
3YBF	NF	0.00	5.00	10.00	15.00	20.00	25.00
0.00	Correct	21.04	21.04	21.04	21.04	21.04	21.04
	GA	78.96	73.96	68.96	63.96	58.96	53.96
5.00	Correct	39.77	39.77	39.77	39.77	39.77	39.77
	GA	60.23	55.23	50.23	45.23	40.23	35.23
10.00	Correct	53.60	53.60	53.60	53.60	53.60	53.60
	GA	46.40	41.40	36.40	31.40	26.40	21.40
15.00	Correct	60.52	60.52	60.52	60.52	60.52	60.52
	GA	39.48	34.48	29.48	24.48	19.48	14.48
20.00	Correct	63.40	63.40	63.40	63.40	63.40	63.40
	GA	36.60	31.60	26.60	21.60	16.60	11.60
25.00	Correct	69.74	69.74	69.74	69.74	69.74	69.74
	GA	30.26	25.26	20.26	15.26	10.26	5.26
		Sample 3YBF: Design Sample					
NF	3YBF	0.00	5.00	10.00	15.00	20.00	25.00
0.00	Correct	8.47	8.47	8.47	8.47	8.47	8.47
	GA	91.53	86.53	81.53	76.53	71.53	66.53
5.00	Correct	35.59	35.59	35.59	35.59	35.59	35.59
	GA	64.41	59.41	54.41	49.41	44.41	39.41
10.00	Correct	52.54	52.54	52.54	52.54	52.54	52.54
	GA	47.46	42.46	37.46	32.46	27.46	22.46
15.00	Correct	57.63	57.63	57.63	57.63	57.63	57.63
	GA	42.37	37.37	32.37	27.37	22.37	17.37
20.00	Correct	65.25	65.25	65.25	65.25	65.25	65.25
	G.A.	34.75	29.75	24.75	19.75	14.75	9.75
25.00	Correct	67.80	67.80	67.80	67.80	67.80	67.80
	GA	32.20	27.20	22.20	17.20	12.20	7.20

Table 10. OJD (1991): Three years before failure-validation samples, precision and grey area

		Non-failing sample: validation sample (%)					
3YBF	NF	0.00	5.00	10.00	15.00	20.00	25.00
0.00	Correct	4.12	4.12	4.12	4.12	4.12	4.12
	GA	95.88	90.88	85.88	80.88	75.88	70.88
5.00	Correct	27.65	27.65	27.65	27.65	27.65	27.65
	GA	72.35	67.35	62.35	57.35	52.35	47.35
10.00	Correct	47.06	47.06	47.06	47.06	47.06	47.06
	GA	52.94	47.94	42.94	37.94	32.94	27.94
15.00	Correct	55.88	55.88	55.88	55.88	55.88	55.88
	GA	44.12	39.12	34.12	29.12	24.12	19.12
20.00	Correct	65.88	65.88	65.88	65.88	65.88	65.88
	GA	34.12	29.12	24.12	19.12	14.12	19.12
25.00	Correct	67.65	67.65	67.65	67.65	67.65	67.65
	GA	32.35	27.35	22.35	17.35	12.35	7.35
		Sample 3YBF: validation sample (%)					
NF	3YBF	0.00	5.00	10.00	15.00	20.00	25.00
0.00	Correct	1.83	1.83	1.83	1.83	1.83	1.83
	GA	98.17	93.17	88.17	83.17	78.17	73.17
5.00	Correct	18.35	18.35	18.35	18.35	18.35	18.35
	GA	81.65	76.65	71.65	66.65	61.65	56.65
10.00	Correct	23.85	23.85	23.85	23.85	23.85	23.85
	GA	76.15	71.15	66.15	61.15	56.15	51.15
15.00	Correct	33.94	33.94	33.94	33.94	33.94	33.94
	GA	66.06	61.06	56.06	51.06	46.06	41.06
20.00	Correct	47.71	47.71	47.71	47.71	47.71	47.71
	GA	52.29	47.29	42.29	37.29	32.29	27.29
25.00	Correct	61.47	61.47	61.47	61.47	61.47	61.47
	GA	38.53	33.53	28.53	23.53	18.53	13.53

and the relevant error allowance in the considered subsample is 100 percent. For example, in the case of the upper left corner cell in the first part of Table 9 the numbers are: 21.04 percent + 78.96 percent + 0.00 percent = 100.00 percent.

The corresponding cell in the lower part of the table gives the results for the failed sample in the same situation. Given this procedure it is possible to evaluate the results. The results for both design and validation samples are presented. Overall, they indicate that the models perform well in both design and validation samples.

Eventually, to position the company in the reference groups, a list of 20 values for each group can be provided (Table 11)[12] so that the user can sense the relative position of the firm being analyzed.

By regularly updating this reference frame, for example by annually determining the performance of the models on more recent samples (via new reference values), the researcher can provide the user with a relevant risk-assessing instrument. The yearly updating is also interesting for the researcher since it allows to assess the stability of the models. Furthermore, by computing the position of a firm year after year in these updated reference frames, the user can distinguish the trend a company is following (the idea of PAS in Taffler, 1983).

Finally, the combined use of the short-term and medium-term model is advocated because these models recognize different types of problems. The former mainly focuses on liquidity while the latter stresses profitability problems. By yearly computing the scores of the company on both models, it is possible to detect, for example, possible shifts of problems the firm is faced with.

Table 11. OJD (1991): One year before failure – design samples, classes and scores

Percentile (%)	Score 1YBF	Score NF
0	1.0000	0.0001
5	0.9996	0.0007
10	0.9967	0.0025
15	0.9782	0.0048
20	0.9597	0.0088
25	0.9387	0.0150
30	0.9107	0.0194
35	0.8711	0.0289
40	0.8351	0.0432
45	0.7387	0.0567
50	0.6931	0.0685
55	0.6544	0.0849
60	0.5965	0.1169
65	0.5441	0.1440
70	0.4638	0.1693
75	0.4101	0.1910
80	0.3404	0.2559
85	0.2782	0.3017
90	0.1832	0.3875
95	0.1029	0.5787
100	0.0281	0.9436

8. Comparison Between OV (1982) and OJD (1991)

In this final section, it would be interesting to make a comparison between the OV and OJD models. Unfortunately, a comparison of the performance cannot be made, for an important reason.

The (reference) populations of both models differ: OV was estimated using only complete annual accounts while OJD was estimated using both complete and abbreviated accounts. A number of ratios incorporated in the OV model simply cannot be computed for abbreviated accounts. Therefore it is not possible to use the OJD samples to test the OV models. However, a number of elements suggest that the OJD models are superior in performance than those of OV.

First, the accounts used data from a more recent period which enhances the reliability of the results. Furthermore, the OJD population consists of both complete and abbreviated accounts which makes the models more adapted to the Belgian accounting situation.

Second, the whole estimation process for the OJD models is characterized by a higher level of sophistication than that of the OV models. For instance, the selection of non-failing firms was conducted in a more rigorous way than with OV. Also, the selection of variables in the OJD models differs from the selection in the OV models. OJD did not rely on a purely statistical selection of variables in the model. Instead of defining a large input battery of variables, from which the most discriminating ones were selected by the statistical technique, OJD guided this process via their theoretical guideline. Furthermore the OJD input battery is richer in the sense that it contains a number of variables selected on the basis of the results of the misclassification studies. The performance results (Tables 7–10) show that the OJD models indeed seem to function accurately.

Third, the most important new feature of the OJD models is the evaluation technique and the presentation of the results. As was outlined in the previous sections, the developed method makes the financial distress models more transparant and therefore more relevant for the external analyst. In a way, this fact has an important indirect effect on the performance of the models.

In summary, the OJD models are the result of almost a decade of experience with both the estimation of financial distress models and the application of the instrument in a practical context. By stressing the fact that the models compute short-term and medium-term risk indicators, which allow the user to position the firm under investigation, it is believed that the use of the financial distress models as an efficient screening device will gain wider acceptance.

9. Closing Remarks

In the previous sections, we discussed the important failure prediction studies in Belgium over the last 10 years. It is obvious that there still remains much research to be done in this area. This paragraph incorporates some suggestions for further research in Belgium on the basis of recent literature.

To improve the predictive ability of the models, one might examine the existence of alternative failure processes. This means that there is a difference in the behavior of the financial ratios prior to failing for each process. Identifying these processes will make it possible to develop models with higher performance for the alternative types of failure processes, or to increase the prediction power of the model by taking into account the frequency of each failure process in the total sample of failed firms (Laitinen, 1991).

Another suggestion is to concentrate on the difference between bankrupt firms and non-bankrupt firms showing signs of financial distress. Previous bankruptcy studies were generally generated by discriminating between failed and randomly chosen solvent, mostly healthy, firms. Such models perform very poorly in distinguishing companies that fail from other problem companies. Consequently, these models are more indicators of financial distress than predictors of bankruptcy. By identifying the financial variables that separate bankrupt from distressed, but not bankrupt firms, new models can be created with an improved predicting performance (Gilbert et al., 1990).

A third improvement in model performance can be found in the inclusion of industry-relative ratios. Platt and Platt (1990) stress the influence of the distribution of companies across industries on the classification accuracy of failure prediction models. Thus they propose to include industry-relative ratios, which means that the ratio of a firm is related to the same ratio of the average firm in its industry. In their research, they conclude that the use of such industry-relative variables results in a higher predicting performance compared to the classical models (Platt and Platt, 1990, 1991).

Besides the elimination of industry effects, another advantage of incorporating industry-relative ratios is the increased stability of the model. Another way of achieving that increased stability is by incorporating stability measures. Betts and Belhoul (1987) integrated both the structured stability of the firm (by calculating a balance sheet decomposition measure) and the stability of each individual ratio (by computing its standard deviation over a three-year period). They conclude that the discriminating power of the model improved when such measures were included. Consequently, stability measures can contribute to a higher predicting accuracy of failure prediction models.

A last source for further research is the use of new methodologies of model estima-tion. In recent years, other classification tools have emerged, replacing the more classical ones like multiple discriminant analysis and logit analysis. One of these techniques is recursive partitioning analysis (RPA). Basically it is a procedure which derives classification rules in such a way that expected misclassification costs are minimized. Although the classification results seem to outperform the DA models, RPA has the disadvantage that it does not provide a continuous scoring system, indicating a company's financial health. Consequently, Altman suggests combining both techniques and using them in a complementary way (Altman, 1993). Barniv and Raveh (1989) solve this problem by presenting a new non-parametric model, overcoming the shortcomings and problems of traditional DA and yet providing a continuous scoring system. Another alternative for the classical techniques which may be applied in Belgium is provided by Gupta et al. (1990), who suggest using linear goal programming as a better instrument for bankruptcy classification.

Finally, recent research efforts in the area of failure prediction are above all concentrated on artificial intelligence systems, which can be defined as computer programs "that simulate the processes by which human learning and intuition take place" (Hawley et al., 1990).[13]

One example is the completion of expert systems with inductive learning algorithms. These methods are an attempt to derive rules by analyzing a number of representative examples. So unlike classical expert systems, which are basically a set of decision-making rules derived from an expert, an important feature of inductive learning models is that they are able to learn from the examples. Applications are made by Shaw and Gentry (1988), using such an inductive learning system to evaluate business loans, and by Messier and Hansen (1988), who exercise this methodology in predicting loan default and bankruptcy.

Another example of artificial intelligence methodology is the neural network approach. Odom and Sharda (1990) applied a neural network model to the case of bankruptcy prediction and compared it to classical discriminant analysis. Their results indicated that the classification ability of the neural network approach outperformed the classical techniques (Odom and Sharda, 1990). Similar conclusions were drawn by Weymaere and Martens (1992), when they applied a neural network approach to the Belgian case. However, there is still much research that can be done to investigate the applicability and results of these new techniques in the area of failure prediction.

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Notes

1. The procedure followed has the advantage that an objective criterion is used but has the disadvantage that the divisions of companies into one of these two subpopulations presents an artificial character to a certain degree: the two subpopulations are only mutually exclusive within a well-defined time horizon.
2. OV used three methods in their course of their research project: LDA, quadratic discriminant analysis (QDA) and logistic regression (LR). They chose to use LDA for the construction of their instrument because this technique gave the best classification results.
3. A discussion of LDA is beyond the scope of this text; some excellent books on this multivariate technique are Lachenbruch (1975) and Altman et al. (1981).
4. A shift of the critical value is a function of the user's objectives.
5. An example of the impact of the calculation of both these costs can be found in Altman et al. (1977) where such a calculation was performed for the first time.
6. The opposite is not necessarily true (see Altman et al., 1977).
7. To determine that the companies are undercapitalized, the ratio distribution information presented by the National Bank of Belgium is used.
8. Lisman also modified the OV models based on the insights he gained from his examination of misclassification causes. The interested reader is referred to Lisman (1987).
9. A whole controversy exists in the literature concerning the possible contribution of inflation-corrected data in this field of research. See also Ketz (1978), Solomon and Beck (1980), Mensah (1983) and Moreau (1981).
10. The differences between the completed and abbreviated accounts in Belgium are discussed in Ooghe and Van Wymeersch (1991).
11. Details on the statistics mentioned and their computation can be found in Hosmer and Lemeshow (1989). They are not included here because they are not the main topic of the text.
12. We present the reference values for the model 1YBF only. The other reference values are available upon request from the authors.

13. It is beyond the scope of this article to study in depth the different artificial intelligence systems. We have restricted our treatment to a rough classification and a few research efforts in the area.

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Appendix 1: Selection of Ratios used by Ooghe and Verbaere (1982)

9 FIXED WORKING ASSETS / OPERATING INCOME

12 STOCK GOODS IN COURSE OF PRODUCTION, WASTE PRODUCTS AND FINISHED PRODUCTS / TOTAL COSTS

22 FINANCIAL ASSETS / FINANCIAL ASSETS + CASH + TEMPORARY INVESTMENTS

35 EQUITY CAPITAL / TOTAL LIABILITIES

36 GROSS EARNINGS BEFORE INTEREST AND TAXES / TOTAL ASSETS

57 SHORT-TERM DEBTS TO CREDIT INSTITUTIONS SHORT-TERM LIABILITIES

62 OVERDUE SHORT-TERM PRIORITY DEBTS / SHORT-TERM LIABILITIES

67 STOCK GOODS IN COURSE OF PRODUCTION, WASTE PRODUCTS AND FINISHED PRODUCTS / CURRENT WORKING ASSETS

68 AMOUNTS BECOMING DUE AND PAYABLE WITHIN ONE YEAR IN RESPECT OF SALES AND SERVICES RENDERED / CURRENT WORKING ASSETS

69 OTHER CURRENT WORKING ASSETS / CURRENT WORKING ASSETS
86 CASH FLOW/ DEBT CAPITAL
90 NET EARNINGS / TOTAL ASSETS
111 FIXED ASSETS / EQUITY CAPITAL
113 CASH / CURRENT ASSETS
114 LONG-TERM LIABILITIES/TOTAL LIABILITIES
116 LIQUID ASSETS / DEBT CAPITAL
122 CURRENT ASSETS – STOCKS – SHORT-TERM LIABILITIES / CASH COSTS + TAXES + DISTRIBUTION OF PROFITS
124 NET EARNINGS / EQUITY CAPITAL + LONG-TERM LIABILITIES
129 FIXED ASSETS / TOTAL ASSETS
131 CURRENT ASSETS – STOCKS / TOTAL ASSETS
135 ACCUMULATED PROFITS / TOTAL LIABILITIES
137 CASH FLOW / TURNOVER
143 PARTICIPATIONS / TOTAL ASSETS
146 ACCUMULATED PROFITS + RESERVES / TOTAL LIABILITIES

Appendix 2: Selection of Ratios used by Ooghe et al. (1991)

2 OPERATIONAL CASH FLOW BEFORE TAXES – CAPITAL INVESTMENTS / TOTAL ASSETS
14 INVESTMENTS + CASH / TOTAL ASSETS
16 OPERATIONAL NET WORKING CAPITAL / TOTAL ASSETS
18 OVERDUE SHORT-TERM PRIORITY DEBTS (DUMMY VARIABLE)
22 FINANCIAL DEBTS (SHORT TERM) / SHORT-TERM LIABILITIES
23 SHORT AND LONG-TERM LIABILITIES / TOTAL LIABILITIES
24 ACCUMULATED PROFITS + RESERVES / TOTAL LIABILITIES
25 GUARANTEED PORTION OF AMOUNTS PAYABLE BY THE FIRM
28 NET OPERATING RESULT/WORKING ASSETS
33 DIRECTION OF THE FINANCIAL LEVER (DUMMY VARIABLE)
36 RELATIONSHIPS WITH AFFILIATED ENTERPRISES
38 PUBLICATIONS LAG

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Book Review

Accounting for the Environment ***by Rob Gray, Jan Bebbington and Diane Walters.*** *Paul Chapman Publishing Ltd., London, 1st edn. ISBN: 1-85396-230-9, 348pp, £50.00.*

Accounting for the Environment provides a general background about environmental issues. Specifically, it offers basic guidance for managers and accountants in incorporating environmental issues into their businesses. The book follows *The Greening of Accountancy: The Profession after Pearce* published by the Chartered Association of Certified Accountants (ACCA) in 1990 in London. This book is unique in that it is the first to address the issue in such detail and for such a broad audience.

The book is organized into four parts. The two chapters in Part A introduce general environmental issues for accounting and finance and trace these issues in the media, politics, the public, and businesses. These chapters also outline the information covered in the following three parts.

Part B begins with an overview of management and accounting information systems and relates them to environmental issues. The seven chapters in this part (Chapters 3 through 9) supply the most important information in the book. Chapter 3 shows how an organization can develop sensitivity to the environmental issues within its borders and covers possible problems in introducing environmental issues in organizations. Some of the suggested starting points are further developed in the following chapters. Chapter 4 extends the issues discussed in Chapter 3 by suggesting how to adopt, establish, and implement environmental policies within an organization. The chapter contains actual samples from organizations that have initiated an environmental policy and emphasizes the need for such action. In Chapter 5, the authors review environmental audits within an organization from both internal (accounting and managerial system) and external initiatives (e.g., European Community proposals). In addition, the chapter Appendix provides examples of guidance on the conduct of environmental audits.

Chapter 6 addresses "sorts of problems with which energy usage is connected and where the savings – environmental and corporate financial –can come from and may be likely to come from in the future" (pp. 110–111). While the chapter is mainly related to the management of energy in an organization, the examples and suggestions for improvement of measurement and reporting of energy costs are worth mentioning. Chapter 7 expands the issue of control from energy to the costs

of waste, packaging, and recycling. This chapter provides empirical evidence that the issue is not widely considered by organizations and offers some guidance to accountants for improving the control of these costs.

Incorporating environmental issues into organizational forecasts is advocated in Chapter 8. Environmental factors are only incorporated in such issues as investment appraisal, budgeting, and design, on a limited basis (p. 149) and this chapter supplies examples for why (and how) these issues should be included in organizational projections. Chapter 9 addresses life cycle analysis (LCA) and assessment. According to the authors, environmental issues should be a component of LCA and they show how accountants can play a part in this analysis and assessment.

Part C (Chapters 10 through 13) addresses two other areas that need accountants' attention: "the interest in environmental issues from the financial services sector; and the trend towards more corporate environmental reporting" (p. 179). Chapter 10 discusses the first area and Chapters 11 through 13 the second area. Chapter 10 addresses not only possible environmental liabilities of financial institutions, but also ethical issues and the effect of environmental liabilities on the market share of this type of organization. Reporting environmental financial numbers in financial statements is discussed in Chapter 11, which contains a review of current disclosure requirements in different countries and the auditors' responsibilities. Chapter 12 presents non-financial reporting of several organizations. Both chapters illustrate current practices for several companies. Chapter 13 presents the limitations of current external self-reporting practices by organizations and how social audits (e.g., consumer movements) can become a mechanism for increasing an organization's accountability on environmental issues.

Part D, "Future direction –overview," contains two chapters. The topic of Chapter 14 is sustainability and the need for it: for what, for whom, in what way, for how long, and at what level of resolution. Further, the chapter discusses the role of accountants in an organization's sustainability through accountability and transparency. Chapter 15 suggests an adjustment to the way organizations look at their responsibilities toward society and proposes a change in attitude. The book concludes with sources for further reading, information and a list of contact addresses, and finally a discussion of the research processes and methods used in collecting the data.

This book successfully incorporates worldwide findings/problems concerning environmental issues in one volume. The authors suggest a number of ways to use the book. "It may be read as a whole. It may be used to support teaching at either undergraduate, professional or post-experience level. It can be used as a reference text for particular topics at particular times. It may be used as a preliminary 'how to green' manual. Or it can be dipped into for practical examples or for general guidance" (p. xiii). Most of the chapters can be used separately for reading purposes; as a result, some of the information seems to be repeated. This could be an advantage, however, especially, when the book is used as part of the reading assignment for a graduate course. As the authors suggest, this book is also a manual for how to incorporate environmental issues in an organization.

In summary, while this book is mainly aimed toward accounting practitioners and managers of organizations, it provides invaluable information for academicians. Although some chapters do not directly involve accounting issues, the information

helps accountants to develop their knowledge in the environmental area and to become more able to play an important role in the organization. For academicians doing research in environmental accounting, the book is a good source of literature, especially since it provides reading lists at the end of each chapter and at the end of the book.

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The Schism in Accounting *by Robert Bloom, H.G. Heymann, Jayne Fuglister and Marilynn Collins. Quorum Books, Westport, CN 1994, 150pp, $49.95.*

This excellent book is an important resource for those interested in the future of accounting reporting and education. This concise and informative book should be read by current accounting educators and practitioners and would be an excellent addition to a business graduate course. The schism in accounting – the division between accounting educators and practitioners existing since the turn of the century –is reviewed in light of philosophical differences arising from the different environments of academia and practice. The static environment of academics as opposed to the dynamic environment of practitioners results in very different views of reality. This difference frequently leads to dissatisfaction with students' preparation and calls for substantive changes in accounting education.

The relationship of this schism to the current accounting environment and the future of accounting education and practice is examined from both a historical and a contemporary perspective. Current and future accounting education is analyzed with international viewpoints included. The schism between education and practice is considered in relation to the need tor educators to increase their own and students' ability to function in a dynamic and highly technological economy; learning to be innovators able to adapt to constant, complex changes in the environment is crucial. The integration, application, and communication of knowledge are discussed in the context of historical and current debates of accounting education and practice. Several models for a 150-hour curriculum are evaluated; a model based on accounting graduate classes that emphasizes technical, analytical, and communication skills is exemplified.

A major theme of this book is the interrelationship of the schism between educators and practitioners, desired changes in education, and the ongoing shift of accounting as a social institution. Changes in accounting education may be related to, but may not solve, problems arising from changes in underlying economic philosophies. Complex and shifting interdependencies among socioeconomic systems affect standard setting. Economic philosophies have emerged emphasizing environmental and global concerns. Some of these philosophies espouse the use of accounting recording and reporting to influence behavior. The effect on accounting theory of these new models and the effect of the older, classical model with its emphasis on free markets and

neutral, objective data may need to be confronted. Some frustration with accounting education may be a consequence of assessing issues raised by new philosophies in the wrong arena. A narrow focus on accounting education may not be sufficient; the institution of accounting and standard setting may need to devote more resources to the evaluation of shifts in economic philosophies.

To aid in understanding the current environment of accounting education and practice, an appendix includes the Bedford Report; relevant excerpts from the Accounting Education Change Commission Issues Statement No. 1, Position Statement No. 1, Issues Statement No. 2, Position Statement No. 2, and Issues Statement No. 3; and a Commentary of the Securities and Exchange Commission Liaison Committee dealing with the interrelationship of accounting education and practice. The inclusion of this appendix in a text that presents an excellent survey of historical and contemporary thought on accounting education is a major strength. The authors provide the reader with an excellent background against which to appraise the future of accounting education and financial reporting.

The history reviewed relates the schism between educators and practitioners to the philosophical and theoretical framework of accounting. Informative and pertinent quotes enhance a survey of the development of both accounting education and professional accounting organizations in the United States. The authors relate the inception of university accounting education in the late 1800s and the formation of the American Association of Public Accountants in 1887 to changes within economic systems, including the rise of corporations and the accompanying financial changes of that period. The development of professional organizations mirrors the schism between educators and practitioners. As early as 1910, practitioners requested specific task-oriented education while academics stressed a broader education focus. In 1922, an early reference in accounting literature states that most problems in business education are a result of difficulty in applying textbook knowledge to actual, economic situations. A writer from 1927 laments that many students are unwilling to begin at entry-level positions performing entry-level tasks. This criticism is familiar to a modern ear. To understand that complaints with accounting education are at least 70 years old is important if worthwhile changes are to be made.

Another major theme of this book is that recent changes in the accounting environment magnify the schism between educators and practitioners. Practitioners coping with rapid, complex changes and an increasingly global economy envision an accounting curriculum that equips students to confront these challenges successfully. The rapid growth of technology and management information systems makes the need for accountants to be information experts an added challenge. In addition, the rapidly changing roles of accountants within business organizations place further stress on the schism between educators and practitioners. The authors illustrate that the schism is beneficial when it initiates improvements in both practice and accounting education.

These issues are not unique to the United States. An international perspective depicts the similarity of perceived deficits in accounting education in several cultures.

The authors propose that perceived deficits may be related to worldwide changes in the accounting environment since the 1960's and particularly during the 1980s. Not just accounting education may need "fixing;" the reporting model may need adjusting. The deficits may be intensified by an ongoing shift from a classical reporting model

that stresses neutral, objective information to new models that envision the use of standards to effect socially desirable change. The classical model is free market driven; the new models reflect concern with issues such as limited resources and environmental costs. The new models of reporting are more proactive than the classical and regard issues of social behavior and justice as important to standard setting.

The authors present an excellent, objective discussion of these philosophies in the context of the future of accounting education and standard setting. The authors propose that the tension between reporting based on a classical model versus a social, behavioral model may not need to be solved but rather may be beneficial; the tension may encourage consensus in standard setting. In the complex, changing environment of the 1990s, consensus may be a more effective approach to standard setting than majority rule. Thus the schism between educators and practitioners offers a positive, continuing contribution to public accounting.

Other developments in the accounting environment requiring attention by both the institution of accounting and educators are examined. Financial reporting by organizations of the stewardship of resources and of the risks and uncertainties within the statements is evaluated. Accounting for executory contracts and new financial instruments is assessed; changes are encouraged primarily through standard setting rather than education. The adequacy of current standards to account for the effect of product quality, worker education and skill, and environmental and social costs on profitability is appraised. Accounting strategies for dealing with modern information technology are depicted as a critical issue; the ability to select, process, synthesize, and communicate information in a relevant manner must be identified and developed. Globalization of financial markets, the Financial Accounting Standards Board's (FASB's) authority, the accounting institution as a bureaucracy, the impact of environmental change, the impact of management science, and changing objectives in financial reporting are examined as current issues in accounting that must be evaluated in practice and standard setting as well as accounting education.

The authors devote significant attention to the future of accounting education. Three models for a curriculum based on 150 hours are considered: a liberal arts model, a business model, and an accounting model. A curricular model with 24 of 30 graduate hours consisting of accounting courses designed to enhance students' technical, analytical, and communication skills while also developing the ability to integrate the knowledge and skills of other disciplines is illustrated. The sequence of courses emphasizes the ability of students to problem solve and to innovate in complex, unstructured situations. The complex, dynamic nature of economies and the interrelationship of accounting to other disciplines underlies the curriculum illustrated.

Practitioners, academics, and all who are interested in standard setting should include *The Schism in Accounting* in their library. The objective presentation of the many facets of the schism between educators and practitioners and the related, evolving status of accounting education make this a valuable resource.

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The Shareholder's Use of Corporate Annual Reports by Mark J. Epstein and Moses L. Pava. *JAI Press Inc., 1993, 189pp, $63.50.*

As the title suggests, this book addresses the fundamental concern of decision-usefulness of annual reports. It is basically a replication of the 1975 report by Epstein, although it has been expanded to cover additional areas. The authors see the comparability of results with the earlier study (1975) as a major strength of the current one, in particular in terms of the developments that have been taken place since 1975, such as the increasing importance of the Financial Accounting Standards Boards (FASB) and the pronouncements of various standards by regulatory agencies e.g. the FASB, Securities Exchange Commission (SEC) and the American Institute of Certified Public Accountants (AICPA). Unfortunately the authors do not pursue this line of reasoning any further.

The book contains 189 pages of which 146 are text and the remainder appendices and references. It is divided into 11 chapters and can be broadly divided into three main sections. The first four chapters provide the general background in terms of objectives of financial reporting, prior research evidence on decision-usefulness of annual reports, and the limitation of market-based research. Chapter 5 explains the methodology used and provides a summary of the sample demographics, and Chapters 6–11 discuss the various aspects of the results.

The book commences with an introductory chapter which lists the major conclusion of the survey, including a comparison with the 1975 results. The motivation for the current study (explained in Chapter 1) is the authors' perceived importance of a replication of their earlier, and thus the comparability of findings over time. Furthermore the authors state that the expanded coverage into areas of current concern was necessary. The remainder of the chapter gives an overview of the structure of the book.

A brief summary is provided in Chapter 2 of the objectives of financial accounting and the regulatory accounting requirements for the publication of corporate reports. Areas covered are the Conceptual Framework and the influence of the political environment in the form of the US Congress, SEC, and the FASB. This is followed in Chapter 3 by a very brief overview of prior research into the effectiveness of annual reports in which the authors conclude "that we currently have very little understanding about the effectiveness of annual reports", using a 1977 statement by Lewellen, Lease, and Schlarbaum to support their observation. This perceived lack of understanding is used by the authors as their justification for the current study, and thus this book.

In Chapter 4 the authors examine the appropriateness of market-based research to evaluate the usefulness of accounting information. After briefly explaining this methodology, the case of the Statement of Cash Flows is used to evaluate the contribution made by market-based research to the "usefulness" debate. The authors conclude this discussion by maintaining that "methodological limitations indicate a need for expanding the way in which we measure the usefulness of accounting information". In the last part of this chapter the authors attempt to make a case for a reconsideration of the implications of the Efficient Market Hypothesis (EMH), which is the underlying rationale for market-based research, using quotes from authors

such as Fama, Foster, and Lev to support their statement. The conclusion reached in the chapter is that market-based research and EMH have to a large extent, not answered the fundamental question "to what extent do individual investors perceive accounting information as useful?" This conclusion reached by the authors is stated as a "powerful motivation for the current study".

Chapter 5 contains a description of the methodology used and the description of the socio-economic characteristics of the sample. A further, more detailed, discussion of the methodology and statistical analysis is provided in Appendix B, authored by Stephen A. Book. The content of the questionnaire, used in the current study, was largely based on the questionnaire of the Epstein study, published in 1975. The entire questionnaire is reproduced in Appendix A.

A random sample of 3000 shareholders (from all 50 states of the United States) was selected, of which 641 were returned post office marked "address unknown". All shareholders were round-lot owners, i.e., owned at least 100 shares of one stock listed on either the New York of American Stock Exchange. A total 246 responses (156 from first mailing and 90 from second mailing) were received, a response rate which the authors stated were consistent with expectations and were considered to be in line with other survey studies. It is furthermore argued in Appendix B that

> What is important in survey response here is not the size of the sample relative to the size of the population base that it supposedly represents but, rather, the extent to which the sample is a valid random sample from (and therefore a valid representation on a smaller scale of) the base population.

The authors state that they are confident that their results are generalizable to the population from which the sample was taken. Their confidence is based on three reasons: (1) there was no significant non-response bias of results between respondents to first and second mailing; (2) the demographics of their sample are similar to those of 1991 New York Stock Exchange survey of investor and also of the 1975 Epstein study; and (3) the results of this study corroborate those of other similar focussed survey studies.

The shareholder's approach to investment decision making is the focus in Chapter 6. In particular, the authors outline the differences of responses obtained in this study and those obtained in the 1975 Epstein study in regard to (1) investors' information sources; (2) investors' level of understanding of annual reports; (3) role of stockbroker as information source; and (4) investors' goals in terms of short versus longer-term investment horizon. The authors observe an increase in the importance of the annual report as a major information source since 1975 and conclude that there is greater need to provide investors with information that is readable, understandable, and useful.

In the first part of Chapter 7 the authors report their findings (and of the comparative 1975 study) concerning readership, understanding, and usefulness of the income statement, balance sheet, and statement of cash flow. Three statistics (chi-square, Goodman–Kruskal, Book's Sharpened Goodman–Kruskal) are used to test for the relationship between usefulness and readership. "Intrinsically useful" is interpreted as a high correlation between high-reading score and a high-usefulness score. Significant results (at .001) were observed for all three financial statements.

Readership and usefulness of non-financial statement items are discussed in Chapter 8. The non-financial statement covered are the president's letter, essay and pictorial,

footnotes, auditors report, summary annual report, management discussion and analysis section, and segmented information. The statistics described in Chapter 7 are used to test the association of readership, usefulness, understanding difficulty, and individual non-financial statement items. The authors also tested the association of readership, usefulness, understanding difficulty of of non-financial statements, as well as the relationship between usefulness and readership of individual non-financial statement items.

In Chapter 9 the authors discuss the effect of shareholders sophistication on the use of annual reports. Sophistication is defined as experience (including formal training), wealth (both in terms of percentage and total amount invested in stocks), age, and education. Statistical tests are used to identify significant relationships between various financial/non-financial statement items and the various definitions of sophistication. Contrary to the 1975 report, which indicated no significant differences of individual item usefulness and level of sophistication, the current study revealed such differences for some financial/non-financial statement items and definitions of sophistication.

The question of an improvement of annual reports is covered in Chapter 10. The three aspects focused on in the chapter are: (1) further explanation of disclosed items; (2) additional information of financial information; and (3) improved disclosure of non-financial information. Where possible, comparisons are made with the 1975 report.

In Chapter 11, the last chapter of the book, the authors list the major results of the study, together with a 1975 comparison. The remainder of the chapter is a statement of the authors' views for an improvement of financial reports, stressing the importance of the results of both the 1975 and the current study for this purpose.

In summary the place of this book/study in the decision-usefulness literature of annual reports will no doubt be received with mixed reactions. Depending on the reader's perception as to what constitutes proper research, the findings in this book will be either rejected or accepted. Advocates of market-based research will certainly not be convinced by this study that opinion questionnaires are the "right way" to research the utilitarian function of annual reports. On the other hand, advocates of the type of methodology used in this study will use this study as an inspiration to carry on with this lines of research.

What both sides will, however, admit is that this study addresses the fundamental question of the justification for the existence of annual reports. No doubt this study will take its place in the decision-usefulness-of-accounting literature.

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INSTRUCTIONS FOR AUTHORS

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[1]William A. Dymsza, Multinational Business Strategy (New York: McGraw-Hill, 1972), 49-53.
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The International Journal of Accounting

The Development of International Accounting Standards: An Analysis of Constituent Participation in Standard-Setting

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Abstract: *The International Accounting Standards Committee (IASC) is recognized as the leader in the movement to harmonize international accounting and reporting standards. The IASC's standard-setting process has not been extensively researched, however. This study examines one aspect of the IASC's standard-setting process: which constituents lobby by sending comment letters in response to exposure drafts (EDs)? All publicly available comment letters regarding 14 EDs issued between 1989 and 1992 were examined. The analysis found approximately 40 organizations contributing about 60 percent of all responses. IASC member bodies represented 40 percent of those 40 organizations. Other regular respondents included non-banking multinational corporations, large international accounting firms, and banking organizations.*

Companies seeking access to world capital markets are often required to present their financial results in a variety of different formats and in compliance with a variety of different reporting standards, which can often produce significantly different pictures. For example, under US Generally Accepted Accounting Principles (GAAP), SmithKline Beecham's 1989 balance sheet indicates negative shareholder funds of $600 million, but using UK GAAP the same company reports positive shareholder funds of nearly $7 billion (*Business Europe,* 1994). Accounting problems associated with the increasingly global marketplace have prompted many international business managers, investors, and creditors to advocate the development and promotion of a set of financial reporting and accounting standards that can be universally applied (Wolk and Heaston, 1992; Radebaugh and Gray, 1993; Wyatt, 1992a).

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The International Accounting Standards Committee (IASC) was established in 1973 to develop and promote internationalized (harmonized) accounting and reporting standards. Until recently, however, the work of the IASC went largely unnoticed. Lacking legal enforcement powers, the accounting standards developed by the IASC were often ignored. However, as the information needs of the multinational business community increased and as access to world capital markets became more desirable, the work of the IASC has received more attention, and the organization is now regarded as the leading institution involved in the development and promotion of international accounting standards (Jacks, 1993; Wyatt and Yospe, 1993; Adhikari and Tondkar, 1992; Roussey 1992; Coopers & Lybrand, 1991). The IASC cites the recent decisions by both the London and the Hong Kong Stock Exchanges to allow foreign issuers to provide reconciliations from home country GAAP to International Accounting Standards (IAS), in lieu of the traditional (and costly) restatements to British or Hong Kong GAAP, as evidence of its increasing success in the harmonization effort (Cairns, 1992).

Despite the apparent growth in influence of the IASC, relatively little research has examined the intricacies of the process by which the IASC establishes its IAS. Fogarty (1992) and Belkaoui (1990) suggest that research regarding the process by which accounting standard-setting institutions promulgate standards and regulation is critical, given the impact and economic consequences financial accounting has on multinational business.

This study examines a particular aspect of the standard-setting process, namely constituent participation in the deliberation process. We sought to answer a simple question: who is lobbying the IASC by sending comment letters in response to the IASC's exposure drafts (EDs)? To address the question, we examined all available comment letters received by the IASC between 1989 and 1992.

Consistent with institutional theory, we observed a relatively large steady core of responses to IASC EDs from other standard-setting bodies and professional accounting organizations, including the six largest public accounting firms. A group of approximately 40 organizations contributes about 60 percent of the responses to EDs. Of the 40 regular responding organizations, a plurality are IASC member bodies. However, we did not observe any real increase in the number of responses per ED over time.

The results with respect to predictions from economic consequences theory were also mixed. The level of response by multinational corporations (MNCs) was overall quite low. Of the 40 organizations that appear to dominate the IASC's lobbying faction, only five are non-banking multinational corporations. Of the five MNCs that regularly responded to EDs, three are headquartered in the United States, as is the only "regular" respondent from the banking industry.

Overall, the results are somewhat perplexing. The IASC has publicly and clearly stated its goal of harmonization, and it appears to have widespread support from the accounting profession in that regard (see, for example, Wyatt, 1992a and Wyatt and Yospe, 1993). The IASC does not, however, appear to be generating much interest on the part of multinational corporations (IASC, 1992b, 1993b).

The remainder of the paper is organized as follows. Background information about the IASC's due process is presented in the first section. The second section

examines prior literature, pertinent theories, and the hypotheses developed from them. The methodology is described in the third section. The fourth section contains the results of the analysis as well as a discussion of the results. The final section presents the conclusions of the study.

I. Background

From its formation in 1973 until 1989, the IASC promulgated IASs with input from a relatively select group of interested parties. Besides the IASC Board members, the IASC invited commentary from IASC members, professional associations, government agencies, public accounting firms, and corporations. Eventually part of this process was formalized into an official IASC Consultative Group. Most of the IASC's deliberations were conducted essentially in private, and comment letters were not released to the public.

Beginning with ED 32, issued in 1989, the IASC began a new deliberative process that more closely mirrors the due process of the US Financial Accounting Standards Board (FASB), including public input, release of comment letters to the public, and a form of public hearings (Wyatt, 1992b). The standard-setting process followed by the IASC from 1989 to 1993 included the issuance of proposed standards in the form of exposure drafts, comment periods, revisions, re-exposures if necessary, and final statements.

Although the process is similar to that of the FASB in the United States, there are several key differences. First, the IASC Board is composed primarily of representatives from a permanently established group of countries (refer to Table 1). Second, a two-thirds vote is needed for issuance of an exposure draft by the IASC, and at least a three-quarters vote of the Board is required for an IAS to be approved (IASC, 1992a).

A third major difference is the way input is solicited and treated. The IASC meets regularly with what is called the IASC Consultative Group (see Table 2 for a list of its members). This group advises the IASC, leading to the perception that certain groups have more influence on the process than others (Wyatt, 1992b; Chandler, 1992; Wallace, 1990; IASC, 1993b).[1] IASC meetings are not open to the public, and agendas are not published, unlike meetings of the FASB (Wyatt, 1992b). The IASC does, however, make most comment letters received available to the public and does publish regular summaries of its activities.[2]

II. Literature Review and Hypothesis Development

A large set of literature examines the role of lobbying in the development of accounting standards. However, these studies primarily address lobbying activities directed towards the FASB or the GASB in the United States (Watts and Zimmerman, 1978, 1986; Kelly 1982, 1983; Deakin, 1989; Roberts and Kurtenbach, 1990; Tandy and Wilburn, 1992). While Benston (1980) and Sutton (1984) are among a few who have compared lobbying behavior in the United States to that in the United Kingdom,

Table 1. Members of IASC Board (1989)

Representatives of the accountancy profession from:
Australia
Canada
Denmark
France
Germany
Italy
Japan
Jordan
Korea
Netherlands
South Africa
United Kingdom
South Africa
United Kingdom
United States
and representatives of up to four other organizations with an interest in financial reporting (then only one):
International Coordinating Committee of Financial Analysts' Associations

Source: IASC (1989).

Table 2. Members of IASC Consultative Group

As of 1989[a]
Federation Internationale des Bourse de Valeurs (FIBV)
Financial Accounting Standards Board (FASB)
International Association of Financial Executives Institutes (IAFEI)
International Banking Associations
International Bar Association (IBA)
International Chamber of Commerce (ICC)
International Confederation of Free Trade Unions (ICFTU), and World Confederation of Labour
International Finance Corporation (IFC)
International Organization of Securities Commissions (IOSCO)
The World Bank
Organizations for Economic Cooperation and Development (OECD)*
United Nations Centre on Transnational Corporations (UNCTC)*
More Recent Member Include:[b]
Basle Committee on Banking Supervision (UK)
Federation Bancaire de la Communaute Europeene (Germany)
The International Assets Valuation Standards Committee (New Zealand, France, Canada)
European Commission

*Denotes observer status.
[a]Source: IASC (1989).
[b]Source: IASC (1992).

only two studies, Kenny and Larson (1993) and Wallace (1990), extend the lobbying literature into the international accounting standard-setting arena to examine the role of lobbying in the IASC's due process. Two different theoretical views emerge from this literature: (1) economic consequences; and (2) institutional theory.

Economic Consequences

Most existing prior literature regarding lobbying activities in the development of accounting standards follows one of two streams: (1) as a part of the accounting choice literature, lobbying has been studied from management's perspective (Francis, 1987; Deakin, 1989; Kelly, 1985); and (2) as a study of the various levels of influence that different parties have on the standard-setters. Both of these literature streams follow an economic consequences model and assume self-interest motivations on the part of the those who choose to lobby.

Early FASB studies (Brown, 1981) examined the relative influence exerted by public accounting versus corporate interests in the FASB's standard-setting process. As the research evolved, however, most of the literature focused upon the characteristics of lobbying corporations (see, for example, Deakin, 1989). The focus of this literature was the lobbying activity of US corporations and whether the theory of economic consequences was supported. While several hypotheses have evolved that are well supported in the context of the US environment, for the purposes of this study the most important is that only very large corporations will lobby standard-setting organizations because: (1) lobbying is too costly for small entities to afford; (2) large organizations are likely to have an influence on standard-setting institutions; and (3) positively affecting the posture of accounting standards can reduce the firm's political costs (Watts and Zimmerman, 1986; Francis, 1987; Kenny and Larson, 1993).

As theories of economic consequences and accounting choices are applied in this study, it is consistent to believe that large MNCs would be interested in IAS, especially those involved or interested in raising capital on world capital markets. Given prior literature, smaller MNCs and companies that operate primarily within their own country would not be expected to lobby the IASC. Therefore, we hypothesize:

H_1: Large MNCs will lobby the IASC by commenting on various IASC EDs.

In general, only the very early US-based lobbying literature considers the motivations for public accounting firms in the lobbying process. While some early research in the United States indicated that the most significant influences on standard-setters may actually be exerted by public accounting firms (US Senate, 1976; Haring, 1979), later research has seemingly discredited this allegation in the United States (Hussein and Ketz, 1980; Brown, 1981; Newman, 1981). However, two observations have been supported by the literature: (1) accounting firms will lobby; and (2) large international accounting firms are more likely to lobby than smaller firms (Kenny and Larson, 1993).

In regard to the IASC, however, many believe that the large international public accounting firms exert considerable influence (IASC, 1992b). Taylor (1987) believes that international accounting firms support the IASC from a self-interest perspective in order to: (a) enhance their own prestige; (b) enhance their own competitive advantage over local national firms; (c) reduce training costs; (d) generate greater demand for their audit services; and (e) maintain private control over the accounting standard-setting process. This motivation of self-interest could be considered a form

of economic consequences theory. Accordingly, we apply these economic consequences concept to the lobbying activities of public accounting firms and hypothesize:

> H_2: International public accounting firms will lobby the IASC by commenting on various IASC EDs.

Institutional Theory

Theories of economic consequence focus upon the self-serving motivations for constituent participation. Institutional theories, on the other hand, examine the interrelationships of various types of organizations. Institutional theory portrays organizations within a social setting and explicitly recognizes the influences and interactions of the outside environment on the internal workings of the organization (Selznick, 1957; Scott 1987). One main point of institutional theory is that an organization endeavours to be legitimized by becoming and/or remaining acceptable within their environment (Dowling and Pfeffer, 1975; Oliver, 1990; Meyer and Scott, 1992; Meyer and Rowan, 1992). Therefore, organizations will continuously monitor the needs and influences of their constituencies and will adjust their operations in order to meet those outside demands (Fogarty, 1992, Kenny; and Larson, 1993). These institutional changes are often iterative as an organization changes in response to changes in the environment (Scott, 1987; Thompson, 1976; Zucker, 1977, 1983, 1988).

In an institutional context, lobbying may be evidentiary of the perceived importance or viability of the organization being lobbied. Tandy and Wilburn (1992) state that participation in the standard-setting process is necessary to ensure the legitimacy of the standards (Johnson and Solomons, 1984).

The need for institutional legitimacy is particularly salient for the IASC (Wallace, 1990). Wallace (1990) maintains that to achieve its stated goal of harmonization, the IASC must legitimize itself within both the professional accountancy community and the multinational corporate arena. So while legitimacy through participation with the IASC may be seen as desirable by many, including the IASC, the only avenue of participation available to most constituents in the IASC's due process is by providing written commentary to IASC EDs (Kenny and Larson, 1993; Tandy and Wilburn, 1992).

We use the above view of participation to measure legitimacy. While measures of institutional legitimacy are vague, at best, Wallace (1990) notes the importance of constituent participation. From the institutional theory literature, we hypothesize:

> H_3: Constituent participation in the IASC's standard-setting process will increase over time.

III. Methodology

Data Collection

Since the inception of the new due process in 1989 through year-end 1992, 16 EDs were issued by the IASC. The study analyzes all but two of the issued EDs: ED 33

Table 3. Exposure drafts and the number of comment letters

ED No.	ED date	No. of letters	Once part of ED 32?	Title
32	1/1989	139	–	Comparability of Financial Statements
34	7/1989	32	No	Disclosures in the Financial Statements of Banks and Similar Financial Institutions
35	12/1989	48	No	Financial Reporting of Interests in Joint Ventures
36	7/1991	50	No	Cash Flow Statements
37	8/1991	53	Yes	Research and Development Activities
38	8/1991	56	Yes	Inventories
39	8/1991	54	Yes	Capitalization of Borrowing Costs
41	5/1992	48	Yes	Revenue Recognition
42	5/1992	40	Yes	Construction Contracts
43	5/1992	46	Yes	Property, Plant and Equipment
44	5/1992	51	Yes	The Effects of Changes in Foreign Exchange Rates
45	6/1992	51	Yes	Business Combinations
46	7/1992	42	Yes	Extraordinary Items, Fundamental Errors and Changes in Accounting Policies
47	12/1992	35	Yes	Retirement Benefit Costs

and ED 40. ED 33, "Accounting for Income Taxes," was released in 1989 and generated considerable commentary. However, the issue discussed in ED 33 was not resolved by the IASC in a timely manner, and the comment letters relating to the ED were not released to the public. ED 40, "Financial Instruments," also continues to be in process and resulted in a revision called ED 48. Comment letters for ED 40 were not available until after the completion of this study, and thus were not analyzed here. Information regarding specific EDs, comment letters, and response frequencies is presented in Table 3. A total of 745 comment letters were included in the analysis.[3]

ED 32, "Comparability of Financial Statements," was the first exposure draft issued under the new process and generated 139 comment letters, including 50 from various multinational enterprises. Most of the comment letters concerning ED 32 were released to the public. However, ED 32 did not result in an IAS; rather, it was split into 10 separate exposure drafts which are also analyzed in this study. Although ED 32 did not follow the new deliberative process smoothly, it is included in the analysis because it marked the beginning of the new process.

EDs 34 through 39 and 41 through 47, issued between 1989 and 1992, generated an average of 50 comment letters each. All 13 of these EDs evolved into either new or amended IASs, thus following more closely the new due process began in 1989. All publicly available comment letters relating to the 14 EDs were included in this study.

Data Analysis

Since our goal was to determine the diversity and frequency of constituent participation at the IASC, we categorized the 745 comment letters several ways. First, we analyzed responses individually to see which organizations responded and how often they responded. Next individual organizations were classified into interest groups, such as professional accountancy bodies, standard-setting bodies and so on; we then

analyzed responses by these categories. Finally, we analyzed responses by country to see if there was an emergent geographic pattern in responses.

We categorized respondents in a manner consistent with Tandy and Wilburn (1992) and Briloff (1986) to gain comparability to the prior literature. As such, our categorizations differ somewhat from those reported by the IASC. We categorize respondents consistently from ED to ED, whereas the IASC's categorizations vary somewhat from ED to ED. We also group individuals with ties to specific organizations to those organizations, which the IASC does not necessarily or consistently do.

Tandy and Wilburn (1992) and Briloff (1986) suggest that differences may exist in lobbying activity depending upon the type of pronouncement issued, such as substantive standards, amendments, and industry standards, and thus each type should be analyzed separately. During the time frame of this study, the IASC did not routinely issue pronouncements in these different categories. We did, however, make a distinction between comment letters generated from ED 32 and the other EDs. ED 32 was a comprehensive exposure draft dealing with several major accounting issues under the IASC's "Comparability of Financial Reporting" project. ED 32 generated the largest number of responses (139 of 745 total) of the 14 EDs. The other EDs included in this study are single-issue drafts. Consistent with Tandy and Wilburn (1992) and Briloff (1986), we analyzed the responses to ED 32 separately from those relating to the other 13 EDs in the study.

We did not attempt to categorize responses by tenor or content. This particular research project was aimed at assessing only the existence, diversity, and frequency of constituent participation, and thus, analyses of content would have been inappropriate.[4] As such, our categorizations do not distinguish between "information-seeking", "opinion-sharing", or other types of comment letters.

IV. Results and Discussion

Overall Response Levels

We first analyzed participation by ED, as presented in Table 3. As expected, due to large number of diverse issues inherent in ED 32, it generated the highest number of constituent responses – 139. ED 38, dealing with accounting for inventories, generated 56 responses, the next highest. Inasmuch as ED 38 proposed the elimination of LIFO, we expected considerable commentary on the ED.

ED 34, an industry standard dealing with bank disclosures, generated the fewest number of comment letters – 32. Again, the level of response is as expected, given Tandy and Wilburn's (1992) findings that industry standards typically generate the fewest number of responses. After ED 34, the next lowest response level was for ED 47, Pensions, with 35 letters.

A general increase in constituent participation as predicted in H_3 was not observed. Rather, as evidenced in Table 3, we noted the opposite–a general decrease in the level of constituent participation. If, however, we analyze participation by issue (i.e., separate the analysis of the multi-issue ED 32 from the other single-issue EDs), a stable level of participation is observed. Even so, H_3 is not supported at this level of analysis.

Constituent Participation by Group

Tables 4 and 5 present the results of the analyses of constituent participation by group. Table 4 describes writers of comment letters and the number of letters submitted. In addition, several organizations and individuals tended to respond to most EDs. Table 5 lists those respondents who commented on at least seven of the 14 EDs studied.

IASC Member Bodies

Member bodies of the IASC (i.e., professional accountancy bodies) are the most prolific respondents to IASC EDs, accounting for an average 31 percent of all responses. Given their position with respect to the IASC, we expect member bodies to comment and respond, especially since this is the group from which response was solicited in the past. Member bodies contributed between 27 percent and 40 percent of the responses to all of the EDs, except for ED 32, which generated the largest number of non-member body responses, where IASC member bodies accounted for only 17 percent of the responses.

While about 35 different bodies responded to at least one ED, 16 responded to at least one-half of the 14 EDs. Those 16 account for 81 percent of the group's response and 25 percent of the total responses. Thus, the number of responses to each ED is fairly consistent, except for ED 32, where a high of 24 responses is found. It is interesting that some of the organizations that have actual representatives on the IASC Board, such as the IMA and the AICPA, also wrote comment letters most or all of the time.

Table 4. Participation by constituent groups in submitting comment letters to IASC

Groups	No. of writers	Percentage of writers	Total No. of letters by respondents	Total percentage of letters by respondents
IASC member bodies	34	15	235	31
Accounting standard-setting bodies	8	3	49	6
Other accounting Organizations	6	2	30	4
Public accounting	30	13	80	11
Accounting interests subtotal	78	33	394	52
Corporations (non-banking)/ industry	80	34	172	23
Business trade associations (non-banking)	13	6	20	2
Business interests subtotal	93	40	192	25
Banking	19	8	54	7
Securities	21	9	50	7
Financial executives	5	2	20	2
Academe	5	3	10	1
Law	1	0	9	1
Other	11	5	35	5
Total	233	100	764	100

Table 5. Regular respondents to exposure drafts (comment letters submitted at least 50% of the time)

IASC member bodies	
Belgium – Institut des Reviseurs d'Enterprises	8
Canadian Institute of Chartered Accountants	14
Certified General Accountants' Association of Canada	14
Denmark – Foreningen af Statsautoriserede Revisorer FSR	9
France – Compaigne Nationale des Commissairs aux Comptes et Ordre des Experts Comptables et des Comptables Agrees	11
Germany – Institut der Wirtschaftsprüfer	14
Institute of Chartered Accountants in Ireland	10
Japanese Institute of Certified Public Accountants	11
New Zealand Society of Accountants	12
South African Institute of Chartered Accountants	11
Sweden – Foreningen Auktoriserade Revisorer FAR	13
Switzerland – Treuhand Kammer	13
UK – The Consultative Committee of Accountancy Bodies	12
American Institute of Certified Public Accountants (AICPA)	14
Institute of Management Accountants (IMA, formerly NAA)	14
Institute of Chartered Accountants of Zimbabwe	11
Standard setting bodies	
Australian Accounting Research Foundation	13
Netherlands – Raad voor de Jaarverslaggeving	14
Financial Accounting Standards Board (FASB)	11
Other accounting bodies	
Federation des Expertes Comptables Europeens (FEE)	14
New York State Society of Certified Public Accountants	9
Public accounting firms	
Arthur Andersen & Co. – USA	13
Coopers & Lybrand (five different branches)	11
Deloitte & Touche (five different branches)	15
Ernst & Young (two different branches)	13
Price Waterhouse (two different branches)	10
Corporations	
CPC International – USA	7
Nestlé – Switzerland	7
Royal Dutch Shell – UK and Netherlands	13
Salomon Inc. – USA	12
Texaco Inc. – USA	11
Banking	
Citicorp – Citibank NA – USA	8
Australian Bankers' Association	8
Banking Federation of the European Community - EC	8
British Bankers' Association – UK	9
Securities	
Association for Investment Management and Research – USA	10
Security Analysts Association of Japan	7
Financial Executives	
Financial Executives Institute – USA	13
Law	
Law Society – UK	9
Other	
Commission of the European Communities, Directorate-General, Financial Institutions and Law – EC	7
Willis A. Smith – USA	9

Accounting Standard-Setting Bodies

Eight different accounting standard-setting organizations provided a total of 49 responses, representing 6 percent of all responses. Of the eight bodies, three (FASB and the accounting standard-setting bodies of Australia and the Netherlands) regularly responded to EDs and provided 78 percent of the letters from standard-setting organizations.

Other Accounting Groups

We grouped the Federation des Expertes Comptables Europeens (FEE) and the state societies of certified public accountants (CPAs) from the United States (including New Jersey and New York) together as "other accounting groups." These organizations are similar to each other in that each represents the professional interests of the practicing professional accountants who are members. This group generated 30 letters, primarily from FEE (14) and the New York State Society of CPAs (9).

Public Accounting Firms

Consistent with virtually all the prior lobbying literature, we grouped public accounting firms together. This group generated 80 responses and accounted for 11 percent of all responses. As can be seen in Table 5, five of the largest public accounting firms (through individuals and their firms' various branches) accounted for 78 percent of this group's responses and 8 percent of the total responses. While those five firms responded to most IASC EDs, overall there was a large difference in interest to different EDs. For example, ED 32 generated great interest with 19 letters, but the other EDs generated relatively fewer comment letters, three to seven each. Also, while five of the six largest public accounting firms made numerous responses, KPMG Peat Marwick (through various branches) only submitted four comment letters.

Accounting Organizations Combined

Institutional theory suggests that certain social organizations interact with each other not only because they perceive the other organization as salient, but also to further their own goals and missions. Further, organizations are more likely to interact with organizations whose interests are most closely aligned with their own. Following that reasoning, we combined all the formal accounting organizations into one large group to analyze the larger group's responses. Combining the IASC member professional accountancy bodies, accounting standard-setting bodies, the other local and regional accounting bodies, and public accounting firms creates a group that is responsible for over one-half of all the comment letters received. This combined group accounts for 35 percent of all responses to ED 32, but provides between 49 percent and 63 percent of all responses to every other ED.

Corporations (Non-banking)

Responses from business corporations, other than banking, were grouped together as a major constituent group following numerous examples in the lobbying literature. Eighty different corporations responded to at least one of the EDs in the study. Fifty

corporations responded to ED 32, and corporate response to ED 32 represented 35 percent of the total. However, over 70 percent of those 50 corporations did not respond to any other ED. Overall, corporations accounted for 23 percent of the comment letters received for the 14 EDs.

Interest in IASC EDs, as measured by letters, varied greatly. While the large response to ED 32 indicates a certain level of awareness of the IASC, beyond ED 32 interest drops. While it is not surprising that only one non-banking corporation (an individual with NLC Limited – India) responded to ED 34, Banking Disclosures, the relatively low level to all other EDs was unexpected. Corporations provided only from between 6 and 14 letters (or 14–27 percent of responses) to other EDs. Only five corporations regularly responded to IASC EDs (see Table 5).

It is also important to note the difference between countries. Of the 80 different corporate respondents, 22 were from the United States (27 percent), 15 were from the United Kingdom (19 percent), thirteen were from Australia (16 percent), eight were from Canada (10 percent), seven were from Switzerland (9 percent), and the other 15 represented seven other countries (see Table 6). Thus, the majority of corporate response was generated from countries in which a relatively wide range of constituents routinely participate in accounting standard-setting.

Corporations from different countries also appear to be interested in different issues. For example, 12 Australian corporations responded to ED 32 as compared to 10 US firms and nine UK firms. For both Australian and UK corporations, their response to ED 32 represented 60 percent of all their total responses to IASC EDs. Conversely, US firms appear to have a broader range of interest than most other countries' corporations. The 22 responding US corporations account for fully 44 percent of all comment letters submitted by corporations. The only other country group rivaling this level of broad interest is the UK netherlands country group, composed of Unilever and Royal Dutch Shell, that accounts for 9 percent of all corporate responses.

Table 6. Responses of corporations by country to IASC EDs

Corporations by country	Overall no. of writers	Overall percentage of writers	ED 32 no. of writers	ED 32 percentage of writers	Total no. of letters	Total percentage of letters
Australia	13	16	12	23	20	12
Canada	8	10	6	12	13	8
France	4	5	3	6	5	3
Germany	1	1	1	2	2	0
Hong Kong	2	3	0	0	4	2
India	3	4	0	0	3	2
Jamaica	1	1	0	0	1	0
South Africa	1	1	2	4	4	2
Switzerland	7	9	5	10	13	8
Netherlands	1	1	1	2	1	1
Netherlands and UK	2	3	2	4	15	9
UK	15	19	9	18	15	9
USA	22	27	10	19	76	44
Total	80	100	51	100	172	100

Banking

The banking group includes 19 different respondents, representing a diverse range of financial institutions and interests, including the Bank of England, Citicorp, the World Bank, the International Finance Corporation (IFC), the Federal Reserve Bank of San Francisco, as well as banking associations from Australia, Canada, Denmark, the EC, Germany, the Netherlands, and the United Kingdom. There is some overlap between members in this group and those in the IASC Consultative Group, including the International Banking Association, the World Bank, and the IFC. The banking group accounted for 54 comment letters or 7 percent of all responses. The group's response rate varied widely. The group's primary interests were ED 34, Bank Disclosures, where their nine responses represented 27 percent of all letters about that ED, and ED 44, Foreign Exchange Rate Change Issues, where their six responses represented 12 percent of all letters. Conversely, no one in the group responded to ED 37, Research and Development Activities. It should also be noted that four respondents – Citicorp, and bankers' associations of Australia, the EC, and the United Kingdom – accounted for 33 letters, or 61 percent of the banking group's letters (see Table 5).

Securities

The securities group of 21 respondents includes financial analyst organizations (5), securities regulators (6), and stock exchanges and stock exchange associations (10). This group's 50 letters represents 7 percent of all responses. The securities group's primary interest was ED 32, with 14 responses (10 pecentof the total). Of additional interest is the split nature of the respondents' interests. One-half (12 of 24) of the letters from securities regulators and the stock exchanges related to ED 32. Conversely, only two of the 26 letters from financial analysts related to ED 32. Financial analysts are responding both more regularly and to a wider range of EDs. The Security Analysts Association of Japan and the Association for Investment Management and Research, with seven and ten responses, respectively, account for about one-third of all responses in this group. In reviewing this group's level of participation, it needs to be remembered that the International Coordinating Committee of the Financial Analysts' Association is a voting member of the IASC Board and that both IOSCO and the FIBV are members of the IASC Consultative Group.

Financial Executives Group

Although similar to some accounting professional organizations, the financial executives' professional organizations were placed in a separate constituent group because of the heterogeneity of the two professions' interests. For example, accountants are more interested in auditing and financial reporting issues, while financial executives are more interested in the cost and availability of capital. Accordingly, the divergent interests might lead the two professions' organizations to respond differently on various accounting issues.

The financial executives group generated 20 responses, primarily from Financial Executive Institute (FEI) chapters in the United States, Canada, and Mexico. The US FEI was the most consistent in the group and responded to 13 of the 14 IASC EDs.

Academe

Academe had only 10 responses, several from well-known individuals in the international accounting literature, including S.J. Gray (United Kingdom), K.S. Most (formerly of Florida International University), and D. Solomons (University of Pennsylvania). In addition, Robert N. Anthony (Harvard University) is credited by the IASC with six letters and is the only academic with multiple responses. It is interesting to note that R. Anthony was also a member of the IMA committee that responded to all IASC EDs. The only other response was a letter with a research paper attached from faculty at Fordham University.

Whereas Tandy and Wilburn (1992) found that academe provides an average of three or four letters per FASB ED, the average from academe for the IASC EDs is less than one per ED. Whether there is less interest in international accounting in the academic community or whether the idea of responding to an IASC ED just simply never occurred to most academics, we cannot say.

Law Group

In their analysis, Tandy and Wilburn (1992) listed a law group. While the Law Society of the United Kingdom responded to nine of the 14 EDs, there really was not a law group of respondents to IASC EDs.

Other Group

The "other" group includes individuals without known organizational ties as well as other small miscellaneous groups, such as insurance trade associations, appraisers, and various other trade associations. Small in number, this group accounts for very few responses. In addition, the Commission of the European Communities' Director-General for Financial Institutions and Law was put in the "other" group due to the difficulty of finding a good fit in any other group.

Constituent Participation: IASC versus FASB

The IASC's 1989 change in its due process appears to be consistent with a mimetic institutional influence within institutional theory (DiMaggio and Powell, 1983; Fogarty, 1992). Mimetic institutional influence suggests that organizations will attempt to model themselves after other organizations that they believe are successful or legitimized because in doing so they believe that they will enhance their own legitimacy. Because the FASB and the IASC are both standard-setting bodies formed in 1973, and the FASB has been more fully legitimized, an explanation of mimetic institutional influence might predict that the logical strategy for the IASC was indeed to follow FASB's example (Kenny and Larson, 1993). Given this theoretical basis, a comparison of constituent participation between the IASC and the FASB may yield some interesting information.

While exact comparisons are difficult, Table 7 attempts to compare both the number of comment letters by group and the percentage of each group's responses as compared to the total for both the 14 IASC EDs as found in this study and 97

Table 7. Participation by constituent groups: IASC versus FASB

Groups	IASC (14 EDs) no. of letter writers	IASC: percentage of letter writers	FASB (97 EDs): total no. of letters	FASB: percentage of total letters
IASC member bodies	235	31	n/a	n/a
Accounting standard-setting bodies	49	6	n/a	n/a
Other accounting organizations	30	4	n/a	n/a
Public accounting	80	11	2 101	16
Accounting interests subtotal	394	52	2 101	16
Corporations (non-banking)/ industry	172	23	7 740	58
Business trade associations (non-banking)	20	2	n/a	n/a
Business interests subtotal	192	25	7 740	58
Banking	54	7	1 700	13
Securities	50	7	239	2
Financial executives	20	2	n/a	n/a
Academe	10	1	335	2%
Law	9	1	74	–
Other	35	5	1180	9
Total	764	100	13 369	100

Note: FASB data adapted from Tandy and Wilburn (1992, p. 53).

FASB EDs as shown by Tandy and Wilburn's (1992, p. 53) study. The major differences relate to the dominant position of various accounting organizations responding to the IASC (52 percent overall) versus the FASB (16 percent). This contrasts to the dominant position of non-banking corporations responding to the FASB (58 percent) versus the IASC (23 percent). The IASC also had a smaller percentage of banking respondents (7 percent IASC versus 13 percent FASB) and a larger percentage of securities respondents (7 percent IASC versus 2 percent FASB). The largest difference was simply in the gross number of responses. The FASB received on average over 130 letters to each ED in comparison to an average of 53 or 54 letters that the IASC received for the 14 EDs examined. However, given the recent change in due process, this response rate may be considered encouraging because the FASB response rate reflects almost 20 years of its due process. For as Tandy and Wilburn (1992) note, the overall number of comment letters to FASB about EDs has increased in recent years.

Discussion

While the analysis supports H_2, the analysis provides relatively little support for either H_1, or H_3. H_1, which predicts lobbying by large MNCs, is not supported owing to two key observations. First, as previously noted, relatively few corporations lobbied the IASC. Second, many of the corporations that lobbied the IASC, rather than being primarily large MNCs, were in fact relatively small. This was particularly true of lobbying companies from Australia. The lack of response from MNCs does not support a typical economic consequences explanation of lobbying.

The next logical question is to ask what circumstances might have led to this result. Initially, we had no reason to believe that the motivation to lobby might differ in an international sense, other than the fact that compliance with IAS is voluntary. However, given the intense interest in world capital markets and the IASC's role in harmonization, the voluntary nature of IAS compliance seemed less important now, especially since a few stock exchanges, such as those in Toronto, London, and Hong Kong, have moved to use IAS in some form. Thus, contrary to expectations, part of the explanation for few corporate respondents may lie in the fact that IASs are still primarily voluntary. That notion was at least partially confirmed when a regular respondent to FASB EDs was contacted and stated that his MNC decided not to bother responding to IASC's EDs precisely because of their voluntary nature.

Another possible answer may lie in the different environments in which different corporations operate. Inasmuch as those firms that did lobby are primarily from countries in which lobbying is an accepted practice, the lack of response may be more of a cultural phenomenon than a lack of interest in IAS. For example, those MNCs that do respond regularly tend to be US-based companies or companies from countries with similar standard-setting processes. It is possible that these responding corporations did so not only because of their innate interest in accounting standard-setting, but also because they have been conditioned to do so by the standard-setting environment in which they operate.

Conversely, one reason for the lack of participation by non-Anglo-Saxon MNCs may be institutional in nature. While US and UK corporations have long been involved in the accounting standard-setting processes in their home countries, this is not the situation for corporations headquartered in many other countries, such as Germany or Japan. Companies headquartered in countries where standard-setting has traditionally been either tax-based or statute-based (i.e., standards set by the government as opposed to the accounting profession) may not be institutionalized in the standard-setting process, and thus, may lack the institutional frameworks to do so. As a related part of this different situation, MNCs in these countries may not respond to IASC EDs because they do not have the corporate mechanisms in place to do so. To increase constituent participation, the IASC may have to encourage some MNCs' participation and then teach them how to participate.

The analysis supports H_2, which expected that large international public accounting firms would lobby the IASC. We found constant participation on the part of large international public accounting firms – a group that appears to benefit from harmonization efforts. The constant participation by the large international public accounting firms is consistent both with a form of economic consequences and with institutional theory.

Institutional theory predicts that organizations will seek to legitimize themselves by seeking environmental input (i.e., constituent participation) and by taking actions to enhance their own visibility in the environment. Responding to EDs can be viewed both as a visibility-enhancing maneuver and as a maneuver to increase another organizations (the IASC's) viability. The analysis does not strongly support H_3, which expects constituent participation as well as constituent participation to increase over time. Consistent with institutional theory, there is a core group of respondents

from various constituents, especially IASC member bodies, who regularly comment on IASC EDs. However, H_3 expected that the number lobbying would increase over time, providing a surrogate measure for increased visibility and legitimacy. But contrary to the predictions of H_3, an increase in the number of responses over time was not observed. The IASC itself has noted problems in the lack of constituent participation and recently admitted the need for more constituent participation, particularly by those in the business community (IASC, 1993b).

Therefore, to summarize, one possible conclusion is that both the overall lack of participation by certain constituents, and MNCs in particular, and the lack of increase in participation may be not so much indicative of a lack of interest on the part of constituents, but rather may reflect the differences in international attitudes about participation in accounting standard-setting. In other words, the attitudes and approaches to participation in accounting standard-setting may not be "harmonized."

V. Conclusion

This study explored the extent of constituent participation in the IASC's standard-setting as measured by comment letters to proposed IASs. We found a rather stable level of constituent participation, both in terms of gross numbers of responses and characteristics of respondents. Given recent claims in the literature regarding the increasing role and prominence of the IASC (Wyatt and Yospe, 1993), the stability of constituent participation is unexpected.

The results of this study tend to confirm the IASC's own concerns over whether the IASC is having adequate constituent participation. From a strategic viewpoint, the IASC's change in due process may not be successful at this time in increasing the institution's legitimacy. The fact that just 40 respondents provided 60 percent of the comment letters indicates that the IASC may not be gaining all of its desired visibility and legitimacy. This may also be confirmed in part by the IASC's recent decisions to again modify its structure and due process.

Beyond the points previously made in the discussion, the results do not necessarily question the viability of harmonization. Rather, the results of this study may highlight another of the difficulties faced by harmonization advocates: that of information dissemination. First, if the IASC is not viewed as a "real" (legitimate) organization by many, lobbying efforts may seem superfluous on the part of constituents. Second, if IASC constituents are not used to responding to standard setters, then the constituents may not know how to respond. So even though IASs are apparently gaining acceptance, as evidenced by the recent actions of the London and Hong Kong Stock Exchanges, it appears that MNCs have yet to focus on the IASC and IAS. The issues raised here should be addressed by both the IASC and future research.

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Notes

1. One such group is the International Organization of Securities Commission (IOSCO), as discussed in Wyatt (1992b), Chandler (1992), and Wallace (1990). IOSCO is believed by many observers to be the primary catalyst for the recent resurgence of the IASC. While examination of the role is an extremely important topic, it is not the focus of this study.
2. The IASC kept a number of the comments letters and/or the names of letter writers confidential (at the writers' request) as the IASC began its new due process in 1989. While the vast majority of comment letters were made public, this practice was common through ED 35.
3. The 745 comment letters actually represent 764 respondents, as several letters were jointly authored. We include all authors as respondents in analyses.
4. There is some research which does analyze the content of comment letters to the IASC. See, for example, Kenny and Larson (1993).

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Innovations in Brazilian Inflation Accounting

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Key words: Brazil; Inflation; Monetary correction; Integral correction

Abstract: *Since 1976,Brazil has employed a system of inflation accounting known as monetary correction, which is used in the preparation of primary financial statements and for tax purposes. In 1987, a second system of inflation accounting known as integral correction was introduced. Public companies in Brazil are currently required to publish two sets of financial statements prepared under each of these systems. This paper describes the recent innovations in the system of monetary correction as well as the new system of integral correction. The new system is shown to be an improvement over the old and conceptually superior to traditional models of inflation accounting.*

Brazil has experimented with methods of inflation accounting since the late 1950s. A new Corporation Law in 1976 instituted the "system of monetary correction" (SMC) which is still used today. The SMC suffers from several conceptual limitations. To overcome these limitations, the Brazilian Securities Commission (Comissão de Valores Mobiliários (CVM)) introduced a second system of inflation accounting in 1987 which must be followed by publicly held companies. This new method is known as "integral correction" (correção integral). For the past several years, public companies in Brazil have been required to publish two sets of financial statements based on two different models of inflation accounting.

The objective of this paper is to update the evolution of the SMC[1] and describe the new system of integral monetary correction (IMCS) prescribed by the CVM. A comparison of the two methods demonstrates the conceptual superiority of the IMCS. The IMCS is also shown to be conceptually superior to traditional methods of accounting for inflation. The information provided should be of interest to students of international and inflation accounting, and provides users of Brazilian financial statements insight into the information being produced.

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As background for the discussion of inflation accounting, the next section describes the source of accounting principles in Brazil. The third section describes the evolution of the SMC concentrating on the period 1980 – 1994. This is followed by a description and conceptual evaluation of the IMCS. The fifth section compares the SMC and IMCS through reference to an actual set of financial statements. The final section presents conclusions.

Source of Accounting Rules

The basic requirements for accounting and financial reporting in Brazil are found in the Corporation Law of 1976 (Law No. 6.404 – Lei das Sociedades por Ações). This law determines which financial statements must be prepared, as well as valuation principles and classification and disclosure rules. The Corporation Law also mandates the use of the SMC.

The Securities Commission (CVM) was created through legislation complementing the Corporation Law of 1976. The Corporation Law in turn gives the CVM the authority to promulgate accounting principles and disclosure requirements for companies that have publicly-traded securities. The CVM has issued many accounting standards (instrucões) since its inception; among them, the instructions related to the IMCS. CVM instructions are not required to be followed by non-public entities.

Decree Law No. 1.598 of 1977 established the basic mechanics for implementing the SMC for both financial reporting and fiscal purposes. Additional pieces of legislation, often fiscal law, have affected the implementation of the SMC and IMCS over the years. Fiscal law recognizes the SMC, but not the IMCS, as the basis for corporate income taxation.

In addition to legislated accounting standards, the Institute of Brazilian Accountants (IBRACON) also issues accounting standards. If formally adopted by the CVM, IBRACON pronouncements are required to be followed by public companies. The Federal Accounting Council (CFC) also issues accounting pronouncements which often endorse existing legislation. For example, recent CFC resolutions endorse the constant purchasing power and present value concepts embodied in the IMCS. The CVM, IBRACON, and CFC recently have been working very closely to resolve specific accounting issues.

The System of Monetary Correction

In 1976, the Brazilian government instituted a system of inflation accounting which, through a very simple mechanical process, and under certain restrictive conditions, results in a calculation of income which approximates income determined using traditional models of general price level-adjusted historical cost (GPL) accounting.[2] In brief, the SMC requires permanent assets (investments, fixed assets, and deferred charges), and owners' equity to be restated in terms of current purchasing power,

with the counterparts accumulated in a monetary correction account whose balance is included in income. Depreciation and amortization expense are based upon restated acquisition costs. As mentioned above, the SMC serves as the basis for both financial reporting and taxation in Brazil.

By restating permanent assets and owners' equity, the monetary correction amount reflects the general price level adjustment of all revenues and expenses (other than cost-of-goods-sold). The monetary correction amount also includes purchasing power gains and losses on monetary assets and liabilities.

The major conceptual limitation in the SMC is the fact that certain non-monetary assets that are not classified as permanent are not subject to monetary correction – the major problem being inventory. This limitation arises from the Brazilian government's desire to make the SMC as feasible as possible and the fact that considerable effort would be required to account for inventory in terms of constant purchasing power. To the extent that ending inventory is acquired at a level of general purchasing power different from that at the balance sheet date, non-restatement of ending inventory causes assets to be understated and cost-of-goods-sold to be overstated (income understated) as compared with traditional GPL-accounting. The inventory error is self-correcting, however, reversing itself in another (normally the next) period.

Another problem inherent in such a relatively simple system is the loss of information which results from the accumulation of various inflation adjustments into one monetary correction amount. It is not possible to disaggregate the various adjustments (purchasing power gains/losses and restatements of income items) incorporated in the monetary correction amount for the purpose of enhancing the information provided in the financial statements.

Another conceptual limitation arises from the provision in the 1977 Decree Law which allows companies to defer taxes on *unrealized* "inflationary profit" when the monetary correction amount has a credit balance. Inflationary profit is defined as the credit balance monetary correction amount minus (plus) interest expense (revenue). The law considers inflationary profit to be realized as permanent assets are realized through sale, disposal, depreciation, and amortization.

It has been argued that there is no economic basis for the concept of "unrealized" inflationary profit.[3] Inflationary profit reflects the gain in purchasing power which results from holding net monetary liabilities during a period of inflation. In cash flow terms, this gain has already been realized through the company being able to purchase more goods (or the same amount of goods at lower cost) with borrowed money when goods are less expensive. (Of course this gain must be offset by the interest cost associated with the borrowed money, the difference being the definition of inflationary profit.) The deferral of taxation for those companies fortunate enough to enjoy inflationary profits continues to be a source of debate in Brazil.[4]

By far the most serious limitation in the application of the SMC has arisen from the use of government indices for monetary correction purposes, beginning with the Readjustable National Treasury Obligation (ORTN) index. The ORTN index was used to restate treasury obligations subject to periodic indexation of face value. Until 1972, the ORTN index moved at a rate equivalent to other indices measuring inflation in Brazil. Beginning in 1973, however, the government began to suppress the ORTN index partially to combat inflation feedback through which indexation is

accused of contributing to future inflation. By the end of 1980, the ORTN index reflected only 47 percent of the cumulative increase in consumer prices since 1965.

Use of the ORTN index seriously diminished the ability of the SMC to adequately reflect the impact of inflation on a company's financial position and operating results. Perhaps more importantly, the lag in the ORTN index also resulted in companies paying more in income taxes than if an accurate index of price level changes had been used.

Post-1980

The mid-1980's saw Brazil enter a new political era with the return of civilian government in 1985. It saw the SMC enter a period of great fluctuation as successive governments instituted various comprehensive plans to combat inflation – several of which negatively affected the SMC.

The first of these was the so-called cruzado plan (Plano Cruzado) instituted by the Sarney government. On the last day of February 1986, Decree- Law No. 2.284:

(1) created a new national currency called the "cruzado" (with a value of 1 000 cruzeiros);
(2) froze all prices of goods and services in the economy and increased all salaries by 8 percent;
(3) transformed the ORTN into the OTN (Obligation of the National Treasury), and
(4) froze the value of the OTN index for one year.

Freezing the OTN index at its February 28, 1986 level resulted in the temporary discontinuance of financial statement indexation. However, in December 1986, the CVM issued Instruction No. 57 requiring public companies to carry out monetary correction for financial reporting purposes using a pro rata OTN index calculated by adjusting the February 28, 1986 OTN index for the rate of change in the Consumer Price Index (IPC) through year end 1986 (roughly 20 percent). Two weeks later, this adjustment also was required by the tax authority (Secretaria de Receita Federal (SRF)) for tax purposes.[5] In June 1987, with the failure of the Cruzado Plan, Decree-Law No. 2.341 completely reinstated the SMC under its previous rules.

With high inflation continuing unabated, in January 1989, the Sarney government instituted another comprehensive plan to combat inflation, the so-called Summer Plan (Plano Verão). To implement this plan, Law No. 7.730 was passed which:

(1) created another new national currency, the "cruzado novo," equal to 1000 cruzados;
(2) froze prices and salaries; and
(3) revoked that portion of the 1976 Corporation Law requiring the monetary correction of financial statements.

The revocation of financial statement indexation was short lived however. The Summer Plan failed, just as the Cruzado Plan had, and the SMC was reinstated six months later in July 1989.[6] (The Minister of Finance later admitted that it had been a mistake to abandon the monetary correction of financial statements.)

In addition to reinstating the monetary correction of permanent assets and owners' equity, Law No. 7.799 also remedied part of the conceptual limitation in the SMC

by requiring the monetary correction of certain non-monetary assets not classified as permanent, that is, pre-payments for assets that will later be subject to monetary correction when acquired and idle fixed assets. However, this law failed to require the monetary correction of inventories.

Law 7.799 also introduced the use of the BTNF (National Treasury Bill) index which was adjusted on a *daily* basis. Until this point, monetary correction had always been performed using indices adjusted on a monthly basis.

When inflation is high, the difference between the use of a monthly or daily index can be significant. For example, with inflation running at 20 percent per month and an asset acquired on the 20th day of the month, under daily correction, the asset will be restated by approximately 6 percent at the end of the month. With monthly correction, there is no restatement for the current month. In the next month, the asset is restated for next month's inflation and the correction for the 6% inflation that occurred in the previous month is lost forever. The difference between daily and monthly correction is even greater for assets acquired earlier in the month.

During the 1980s, the problem of having the monetary correction index determined by the government continued. The distortion in the official index reached its peak in 1990 (as a part of the Plano Collor[7] to curb inflation) when the IPC increased 1795 percent but the government's daily adjusted BTNF index increased only 845 percent. To determine the impact the lag in the BTNF index had on profits, Santos and Barbieri[8] conducted an analysis of the income statements of a group of 20 banks. They determined that whereas reported pre-tax profit for the group was 3.1 billion cruzeiros (CR$), with a provision for income taxes and social contributions of CR$1.4 billion, if the IPC had been used for correction purposes, group *pre-tax profit would have been only CR$425 million.* Thus, these 20 banks paid three times *as much in taxes as should have been recorded in pre-tax profit.*

Many companies complained to the Ministry of Justice of this distortion. As a result, Law No. 8.200 was passed in June 1991 allowing the retroactive restatement of 1990 income for the difference between the monthly adjusted IPC and the BTNF. The tax benefit from this restatement, however, was deferred until the period in 1993–1996.

Law No. 8.200 also introduced the use of the monthly adjusted National Consumer Price Index (INPC) calculated by the Brazilian Institute of Geography and Statistics (IBGE) for monetary correction. For the first time in the history of the SMC, an index compiled by a non-governmental organization, and therefore not subject to government manipulation, was prescribed for monetary correction. However, for this step forward there was a step backward in that a daily adjusted index was no longer used. In November 1991, the monetary correction index was changed again when Decree 332 required the use of an "accounting restatement factor" (Fator Atualizacão Patrimonial [FAP]) for monetary correction. This had no immediate effect on the SMC, as FAP was directly based on the monthly INPC. It opened the door, however, for the government to pre-fix FAP at a level different from the change in INPC should this be deemed necessary to combat inflation.

Only two months later the factor to be used for monetary correction was changed again. Law No. 8.383 reinstated the use of a daily-adjusted index beginning January 1, 1992 by requiring the use of the "fiscal unit of reference" (Unidade Fiscal de Referéncia

(UFIR)) which was based on the daily adjusted "Extensive" Consumer Price Index (IPCA), also compiled by the IBGE. The UFIR continues to be used for financial reporting and tax purposes today.

Inflation in recent years has been extremely high, even by Brazilian standards. (The INPC rose 475 percent in 1991, 1149 percent in 1992, and 1 779 percent through November 1993.) However, with the consistent use of independently calculated inflation indices, since 1991 the monetary correction of financial statements has accurately reflected the rate of inflation existing in the economy.

The System of Integral Correction

The major conceptual limitations of the SMC are nonindexation of inventory and loss of information, both caused by the simplicity of the system. As inflation increased in the 1980s, the noncorrection of inventory became more problematic. In addition, it was also felt that by incorporating all inflation adjustments into one monetary correction account, important information needed by both management and outside users of financial statements was not being provided.

To correct these problems the CVM published Instruction No. 64 in May 1987 requiring all publicly-held companies to publish "complementary financial statements" prepared "in units of constant purchasing power" using a system of integral monetary correction (IMCS).[9] To comply with both the corporation law and the CVM's instructions, publicly-held Brazilian companies have been publishing multiple column financial statements; one column of information prepared under the traditional SMC in accordance with the corporation law and two columns of comparative information prepared under the new IMCS. An example is shown in Exhibits 1 and 2 in which financial statements from the 1992 annual report of Mannesmann Commercial SA are presented. The CVM requires that financial statements prepared under the IMCS must be audited.

Comparative information in the IMCS statements must be restated in terms of current purchasing power at the balance sheet date. Thus, the cruzeiro amounts provided in the 1991 column in Mannesmann's financial statements have been restated in terms of December 31, 1992 purchasing power.

Because income calculated under the SMC forms the basis for taxation, it is necessary to account for deferred income taxes in the IMCS statements. The CVM also requires a reconciliation between income and owners' equity calculated under the SMC and the IMCS to be presented in the notes to the financial statements. Mannesmann's reconciliation between the SMC and IMCS for 1992 is presented in Exhibit 3.

Conceptual Improvements

The IMCS is essentially a system of GPL accounting in which non-monetary balance sheet accounts and income statement items are restated in terms of current purchasing power. A major improvement over the SMC is the restatement of inventory. The

IMCS as originally instituted by the CVM was flawed, however, in that inventories were not required to be restated if they were acquired within three months of the balance sheet date. This problem was corrected in 1992 through CVM Instruction 191, which now requires all inventories to be restated.

Exhibit 1. Mannesman Commercial SA: Balance Sheet at December 31 (in thousands of Cruzeiros)

	SMC According to corporation law	IMCS In units of constant purchasing power	
	1992	1992	1991
Assets			
Current assets			
Cash	2 810 554	2 810 554	2 841 389
Marketable securities	105 166	105 166	92 793
Accounts receivable	28 761 743	25 819 939	46 379 873
Others receivables	3 051 219	3 051 219	2 274 590
Provision for doubtful receivables	(890 337)	(890 337)	(1 587 280)
Inventories	29 799 511	80 102 905	46 379 873
Prepaid expenses	143 978	143 978	292 159
Deferred taxes		13 188 794	5 504 272
	63 781 834	124 332 218	178 687 008
Long-term realizable assets			
Deferred taxes		5 509 493	15 656 781
Investments in subsidiaries	27 921 006	27 921 006	24 570 192
Judicial deposits	38 804 076	38 804 076	28 597 569
Other receivables	133 163	133 163	1 453 169
	66 858 245	72 367 738	70 277 711
Permanent assets			
Investments	210 821	210 821	59 167
Fixed assets			
Monetarily corrected cost	89 711 698	89 711 698	95 197 676
Accumulated depreciation	(47 569 043)	(47 569 043)	(49 180 754)
	42 353 476	42 353 476	46 076 089
	179 993 555	239 053 432	295 040 808
Equities			
Current liabilities			
Accounts payable	2 377 239	2 279 770	3 779 153
Due to subsidiaries	8 956 913	8 300 517	43 091 633
Taxes payable	6 845 756	6 845 756	4 344 547
Provision for vacations	4 527 001	4 527 001	3 386 917
Provision for commercial and other risks	4 437 033	4 437 033	1 108 080
Accrued payables	1 500 733	1 500 733	2 574 569
Deferred taxes		20 449 069	21 161 053
	28 644 675	48 339 879	79 445 952
Long-term liabilities			
Taxes payable	38 389 232	38 389 232	28 597 569
Owners' equity			
Capital stock	11 600 000	142 374 064	142 140 193
Capital reserves	146 807 726	16 033 662	16 267 533
Retained earnings	(52 448 078)	(6 083 405)	28 589 561
	105 959 648	152 324 321	186 997 287
	179 993 555	239 053 432	295 040 808

Exhibit 2. Mannesman Commercial SA: Income Statement for the year ended December 31 (in thousands of cruzeiros)

SMC IMCS	According to corporation law	In units of constant purchasing power	
	1992	1992	1991
Gross sales	211 679 540	535 425 386	1 118 124 169
Sales discounts	(5 619 026)	(20 954 676)	(20 176 782)
Sales taxes	(36 702 830)	(111 565 566)	(106 523 383)
Net sales	169 357 684	402 905 144	991 424 004
Cost of goods sold	(88 583 937)	(335 687 546)	(831 670 701)
Gross profit	80 773 747	67 217 598	159 753 393
Operating expenses and other revenues			
Selling expenses	(37 683 943)	(86 438 026)	(165 717 387)
Provision for doubtful accounts	(677 370)	778 570	4 638 166
General and administrative expenses	(7 836 621)	(17 726 067)	(20 126 827)
Financial expenses	(37 331 391)	(5 230 813)	(4 213 075)
Financial revenues	40 044 466	15 663 991	5 356 770
Provisions	(4 870 228)	(4 148 370)	835 817
Other	247 814	(598 423)	(6 640 411)
	(48 107 273)	(97 699 138)	(185 866 947)
Operating profit (loss)	32 666 474	(30 481 540)	(26 113 644)
Nonoperating expenses	(242 757)	(948 582)	(105 367)
Monetary correction of the balance sheet	(57 667 244)		
Loss before taxes and social contribution	(25 243 527)	(31 430 122)	(26 219 011)
Social contribution	(130 577)	(2 738 865)	1 089 981
Income taxes	(48 317)	(310 568)	1 791 298
Net loss	(25 442 421)	(34 479 555)	(23 337 732)

Exhibit 3. Mannesman Commercial SA: Reconciliation between net loss and owners' equity (in thousands of cruzeiros

	Net loss 1992	Owners' equity 1992
According to corporation law	(25 422 421)	105 959 648
Present value adjustments		
Accounts receivable	3 567 514	(2 941 804)
Accounts payable and due to subsidiaries	(2 959 708)	753 865
Monetary correction of inventories	(8 978 774)	52 414 231
Provision for decline in market value of inventories	1 064 616	(2 109 837)
Deferred taxes		
Assets	(2 462 766)	18 698 287
Liability	711 964	(20 449 069)
Net adjustment	(9 057 134)	46 364 673
In units of constant purchasing power	(34 479 555)	152 324 321

Purchasing Power Gains and Losses

There has been considerable debate in the GPL accounting literature as to the nature of and the appropriate method of disclosing purchasing power gains and losses on monetary items.[10] In the Exposure Draft[11] leading to SFAS 33, for example, the FASB preferred presentation of a purchasing power gain/loss as a non-operating item in income. In SFAS 33,[12] however, the FASB expressed no preference, in the hopes of encouraging experimentation.[13] In both cases, the *net* purchasing power gain/loss was reported as a single-line item aggregate amount.

Under the IMCS, purchasing power gains and losses are treated as components of operating income. A major innovation over traditional GPL accounting is that the gain/loss on net monetary items is not reported as a single-line item, but instead gains and losses on individual monetary assets and liabilities are adjusted to their related income statement items. For example, purchasing power gains on interest-bearing monetary liabilities are offset against nominal interest expense to provide a measure of "real" interest expense, purchasing power gains on salaries payable are deducted from salaries expense, and so on. Purchasing power gains and losses that cannot be identified with a specific income statement item, such as the purchasing power loss on cash and the gain on dividends payable, are shown as "other operating revenue/expense".

To demonstrate the treatment of purchasing power gains, consider a firm which pays wages of 1 000 000 cruzeiros (CR$) at the end of the month. The average value of the correction index (UFIR) during the month is CR$5 and the index at month-end is CR$5.5, that is 10 percent inflation was experienced during the month. Conceptually, services have been received from employees during the month with a cost of CR$1 000 000. Delaying payment until the end of the month generates a gain in purchasing power. Under traditional GPL accounting, wages expense would be calculated as:

$$CR\$1\,000\,000 \times 5.5/5.0 = CR\$1\,100\,000$$

A separate purchasing power gain would be calculated as:

$$CR\$1\,000\,000 \times [(5.5/5.0) - 1] = CR\$100\,000$$

The income statement would report an operating expense of CR$1 100 000 and (according to the FASB's Exposure Draft) a non-operating gain of CR$100 000.

Under the IMCS, wage expense would be reported on an inflation-adjusted basis net of purchasing power gains at CR$1 000 000 (CR$1 100 000 – CR$100 000). This represents the actual amount of purchasing power expended on wages during the month expressed in terms of the general purchasing power of the CR$ at month-end. Another way of calculating this is to consider the number of UFIRs, that is, market baskets of goods, that was actually expended on wages:

$$CR\$1\,000\,000 \,/\, CR\$5.5 = 181\,818 \text{ UFIRs}$$

Restating UFIRs back into CR$ at the end of the month:

$$181\,818 \text{ UFIR} \times CR\$5.5 = CR\$1\,000\,000$$

Discounting of Receivables/Payables

Another major innovation introduced by the CVM is the requirement that non-indexed receivables and payables be carried at their present value. Although theoretically correct, discounting of current receivables and payables is generally not practiced around the world because of materiality considerations.[14] However, in countries experiencing high rates of inflation and, therefore, high rates of nominal interest, such as Brazil, the amount of the discount becomes significant.

For example, with inflation running at the rate of, say, 22 percent per month (and nominal interest rates therefore of 25 percent per month), a 30-day credit sale of CR$100 000 will include imputed interest of CR$20 000. Under the IMCS, the receivable will be recorded at its face value of CR$100 000 with an offsetting discount of CR$20 000 and the sale will be recorded at the net amount of CR$80 000. The alternative of not discounting the receivable results in an overstatement of sales and an understatement in interest income.

Limitations in the discounting methodology originally required by the CVM were corrected over time. Initially, only those monetary items maturing at least 90 days after the balance sheet were carried at present value. This was seen as a temporary, practical solution, however, and in January 1991 this provision was revoked.[15] All non-indexed receivables and payables existing at the balance sheet date now must be discounted to their present value.

Originally the difference between face and present value was shown in operating income as "adjustments to present value". In 1989, the CVM changed this rule and required adjustments to related income accounts, primarily interest revenue and interest expense.[16] As an exception, however, discounts on liabilities incurred to finance asset acquisitions are treated as a reduction in the cost of the related asset. This is consistent with the concept of recording the asset at the present value of future payments.

The discount rate was initially determined by considering the change in the general price level for the three months preceding the balance sheet date. This created a potential discrepancy between actual interest rates and the discount rate. This was changed by the CVM in July 1992 which now requires use of the prevailing market interest rate as determined by ANBID (National Association of Investment and Development Banks) or by the company itself.[17]

Discounting to present value and taking purchasing power gains/losses directly to their related income items has a compounding effect on the calculation of interest revenue and interest expense. The net result is that, under the IMCS, *real* interest revenue and interest expense are reported on the income statement.

To demonstrate the calculation of interest revenue on accounts receivable, assume a seller offers to sell machinery at a cash price of CR$10 000. If a customer wishes to pay in 30 days, the seller will charge a higher price to compensate for the loss in purchasing power from receiving cruzeiros 30 days in the future. Assuming a nominal interest rate for the next month of 26 percent (which includes anticipated inflation of 23%), the seller will charge a 30-day credit price of CR$12 600 (CR$10 000 × 1.26). According to the IMCS, this credit sale would be recorded at its present value as follows:

Dr. Accounts receivable	CR$12 600	
Cr. Sales		CR$10 000
Discount on accounts receivable		CR$ 2 600

At the end of 30 days, the customer makes payment and the following entries are made:

Dr. Cash	CR$12 600	
Cr. Accounts receivable		CR$12 600
Dr. Discount on accounts receivable	CR$ 2 600	
Cr. Interest revenue		CR$ 2 600

In addition, Sales must be updated for the change in purchasing power which took place over the past 30 days and the purchasing power loss on the credit sale (account receivable) must be recognized as a reduction in Interest revenue. Assuming inflation of 25 percent over the past 30 days, the entry is:

Dr. Interest revenue	CR$2 500	
Cr. Sales [CR$10 000 × (1.25 – 1)]		CR$2 500

The net result is:

Cash CR$12 600	=	Sales	CR$12 500
		+ Interest revenue	CR$ 100

Interest revenue of CR$100 represents the *real* interest rate of 1 percent (26 percent nominal interest less 25 percent inflation) earned on a sale of CR$10 000. In contrast, the SMC would have reported sales of CR$12 600 without reporting separate interest revenue. Traditional GPL accounting would have reported sales of CR$15 750 (CR$12 600 × 1.25) and a purchasing power loss of CR$3 150 (CR$12 600 × 0.25). Only the IMCS reflects the *real* interest earned on the credit sale.

If a cash sale had been made in the amount of CR$10 000 and the proceeds had been invested at the nominal interest rate of 26 percent, the SMC would report Sales of CR$10 000 and Interest Revenue of CR$2 600 at the end of one month. Traditional GPL accounting would report Sales of CR$12 500 (updated to end of month purchasing power), Interest Revenue of CR$2 600, and a Purchasing Power Loss of CR$2 500 (CR$10 000 × 0.25). The IMCS, on the other hand, would report Sales of CR$12 500 (updated to end of month purchasing power) and Interest revenue of CR$100, the same as in the case of the credit sale. In either case, Interest revenue under the IMCS reflects the *real* interest rate of 1 percent.

Correction index

The index used for the IMCS has been the same as that required for the SMC. Manipulation of the index used for the SMC during the period 1987–1991 also reduced the reliability of the information provided under the IMCS.

In 1992, the CVM created the concept of the "accounting monetary unit" (Unidade Monetária Contábil [UMC]) to be used for the IMCS.[18] The UMC was created to separate the index used for tax purposes (UFIR) and the index used for the IMCS. So far the CVM has designated the UFIR as the UMC. If, in the future, the government

should manipulate the UFIR, the CVM will have the flexibility to require another index to be used as the UMC.

Monetary Unit Assumption

The CVM requires that financial statements be published in terms of the national monetary unit, but the accounts must be kept in terms of the UMC. For example, land acquired at a cost of CR$1 million when the value of the UMC is 100 would be carried in the books at a cost of 10,000 UMCs. At the balance sheet date, the UMC cost of the land would be "translated" back into CR$ at the prevailing UMC index, say 150, to arrive at a restated historical cost of CR$1.5 million. (This process is analogous to keeping books in terms of a foreign currency.)

Because of the time-lag between the balance sheet date and the publication of financial statements, the CR$ amounts reported in terms of year-end purchasing power might not be meaningful several months later when the financial statements are published. If the UMC index is, say, 250 when the financial statements are published, CR$1.5 million now represents only 6 000 UMCs.

This could pose a problem for comparison of financial statements across companies with different fiscal year-ends. (It would be analogous to comparing across financial statements expressed in different foreign currencies.) As most companies in Brazil close their books on December 31, however, this problem is not very great. Moreover, most analysts routinely translate the CR$ amounts reported in financial statements into UFIRs, dollars, or some other "stable currency" for analysis purposes. The CVM could alleviate this additional work if it were to allow financial statements to be published in terms of UMCs. (The land referred to above, for example, could be reported on the balance sheet at its historical cost of 10 000 UMCs.) Internally, companies make managerial decisions using data stated in terms of UMCs rather than CR$.[19]

Comparison of SMC and IMCs

The 1992 balance sheet and income statement for Mannesmann Commercial SA are presented in Exhibits 1 and 2. A comparison of the amounts reported in the "corporation law" column for 1992 with the amounts reported "in units of constant purchasing power" for 1992 reveals the major differences between the two systems of inflation accounting currently used in Brazil.

Balance Sheet

Mannesmann's inventories are carried at unadjusted historical cost under the SMC, whereas in the IMCS inventories have been restated in units of purchasing power at the balance sheet date. This restatement produces a carrying value 2.7 times larger than the amount reported under the SMC. This difference also affects cost-of-goods-sold reported in the income statement.

Differences also exist in the carrying value of monetary items (accounts receivable, accounts payable, and due to subsidiaries) as a result of these items being reported

at their present value under the IMCS. For example, accounts receivable under the IMCS is 10 percent smaller than under the SMC. Some monetary items, for example, other receivables, have not been discounted to their present value as Mannesmann has determined that the difference between face and present value is immaterial. For companies with monetary assets and liabilities whose face value is subject to indexation, there will not be a difference between the SMC and IMCS, because the face value of those items already reflects their present value.

A third difference between the two systems is the inclusion of deferred taxes in the IMCS balance sheet. Deferred taxes do not arise in the SMC because SMC income serves as the basis for taxation. Deferred tax assets result from the special restatement of 1990 income allowed to compensate for the government's manipulation of the BTNF index in that year.

The presentation of owners' equity also differs between the two systems of inflation accounting. Under the SMC, the monetary correction of capital stock is shown in capital reserves, whereas under the IMCS, the adjustment to capital stock is taken directly to that account. Thus, the separate amounts reported for capital stock and capital reserves differ between the two systems, but the sum of the two is the same. Finally, retained earnings differ as a result of income being different under the two systems.

Income Statement

Most of the differences between the two systems are found in the income statement. Under the SMC, revenues and expenses are reported at their nominal amounts, with the exception of depreciation which is based upon the monetarily corrected cost of fixed assets. Counterparts to the monetary correction of owners' equity and permanent assets are aggregated in the account labeled "monetary correction of the balance sheet" shown below "non-operating expenses". For Mannesmann, owners' equity exceeds permanent assets, so the monetary correction of the balance sheet resulted in a *decrease* in 1992 income of CR$57.7 billion. As mentioned above, this amount combines the general purchasing power restatement of revenues and expenses (other than cost of goods sold) with the purchasing power gains and losses on monetary items.

The "monetary correction of the balance sheet" does not exist in the IMCS. Instead, its component parts are allocated to the related income statement items. Revenues and expenses are individually restated in terms of constant purchasing power as of the balance sheet date. This results in significantly larger amounts for most revenues and expenses. For example, net sales and selling expenses are more than twice as large under the IMCS as under the SMC. The major exception to this general relationship is financial (interest) expenses and financial (interest) revenues which are smaller under the IMCS.

The reason for this is that under the IMCS purchasing power gains and losses on monetary items are adjusted to related income accounts. For example, the purchasing power loss on accounts receivable reduces financial revenue and the purchasing power gain on accounts payable reduces financial expense. Thus, whereas under the SMC financial revenues and expenses reflect nominal interest rates, under the IMCS

they reflect real interest rates and are correspondingly smaller in amount. The size of the difference is mitigated by the fact that whereas financial revenues and expenses are reported at historical values under the SMC, they are updated to end of period purchasing power under the IMCS.

The purchasing power loss on cash is included in "Other" in "Operating expenses and other revenues" under the IMCS. This causes "Other" revenue of CR$247 814 under the SMC to become "Other" operating expense of CR$598 423 under the IMCS.

Depreciation is based upon restated fixed asset values under both the SMC and the IMCS. A difference exists, however, because under the SMC, depreciation is based on the average restated fixed asset value during the month, whereas depreciation is based on the month-end restated fixed asset value in the IMCS.

The differences between the two systems of accounting results in a difference in net income (loss) of approximately CR$9 billion. The net loss under the IMCS is approximately 35 percent larger than under the SMC. The major reason for this difference is the monetary correction of inventories under the IMCS with its concomitant impact on cost-of-goods-sold (see Exhibit 3).

Another source of difference results from the recording of accounts payable/receivable at their present value. All of the implicit interest included in the face value of accounts payable/receivable is included in income under the SMC in the period in which the payable/receivable is generated. Under the IMCS, this period's discounts on accounts payable/receivable which are amortized this period plus the deferred portion of last period's discounts amortized this period are included in current income. This results in a timing difference between SMC and IMCS income. Timing differences result in significant amounts of deferred taxes under the IMCS.

Gross profit differs significantly between the two systems, being 17 percent smaller under the IMCS. Differences in the gross profit ratio are even more pronounced – 48 percent under the SMC but only 17 percent under the IMCS. These ratios provide very different information about the efficiency with which the company generates gross profit from sales.

The largest difference exists in operating profit (loss). Operating profit of CR$32.7 billion was reported under the SMC whereas an operating *loss* of CR$30.5 billion is reported under the IMCS. These two numbers provide conflicting information as to how effective the company was in generating profit from its normal operations. The major reason for the difference, of course, is that the monetary correction amount is not included in operating profit under the SMC. Not including this amount in operating profit is potentially misleading to readers of financial statements. Through analysis of the SMC income statement one might conclude that the company had reasonable success in generating operating profit (operating profit ratio of 15 percent). But, because the company had owners' equity greater than permanent assets, the monetary correction resulted in a negative amount, which caused the net loss for the year. In other words, it could be thought that, if it were not for inflation, the company would have had a reasonably successful year.

The conflicting information provided by operating profit and net income under the SMC is eliminated from the IMCS because the effects of inflation are incorporated into each line item comprising income. Through the IMCS, the CVM forces companies to acknowledge and report the impact that inflation has on normal operations.

Conclusions

The IMCS is conceptually superior to the SMC. By restating inventory, the IMCS provides an accurate measure of GPL income so long as a realistic index of inflation is used. Since 1991, the index used for financial statement indexation has adequately measured the change in the general price level, and with the creation of the UMC the CVM has the ability to ensure that this remains true.

In addition, by eliminating the single-line monetary correction amount and instead adjusting each revenue and expense item for inflation, the IMCS provides more meaningful measures of the components of income than is provided under the SMC.

By requiring current receivables and payables to be carried at present value, the IMCS represents a conceptual refinement in traditional GPL models of accounting. As a result, interest revenue and expense in IMCS statements reflect real rates of interest.

The IMCS is supported by both preparers and users of financial statements in Brazil. It is common to find companies who do not fall under the purview of the CVM publishing IMCS financial statements on a voluntary basis. Mannesmann Commercial, for example, is one of these companies. The Brazilian Association of Capital Market Analysts (ABAMEC) strongly supports the IMCS and has repeatedly asked the CVM to make the IMCS the only system of inflation accounting used for financial reporting.

Consistent with ABAMEC's request, in December 1993 the CVM published Instruction No. 201 which exempts Brazilian public companies from publishing SMC financial statements in the future. The SMC will still serve as the basis for taxation, however, so companies will continue to keep two sets of books. It is likely that companies will discontinue publishing SMC information, but this remains to be seen. Because the SMC continues to be used for tax purposes, Brazilian companies continue to be taxed on inflation-induced profit caused by the nonindexation of inventory. Convincing the government to use the IMCS for tax purposes is the logical next step in the evolution of inflation accounting in Brazil.

References and Notes

1. See Timothy S. Doupnik, "Indexation: Brazils's Response to Inflation." *International Journal of Accounting Education and Research* (Fall 1982), 199–220, for a description of the evolution of Brazilian inflation accounting through 1980.
2. Doupnik (1982) demonstrates that, under the assumption that ending inventory is acquired at year-end, the Brazilian system of monetary correction produces a calculation of income similar to that obtained from using APB Statement No. 3, "Financial Statements Restated for General Price-Level Changes."
3. Eliseu Martins, "Vou Distribuir Meu Lucro Inflacionário e Você?" Seleções Contábeis ATC – Assessoria Tibutária Contábil – Centro de Estudos Superiores – COAD (November 1983), 21–30.
4. Marcelo Pontes, "O Lucro Inflacionário Deve Ser Tributado." *Exame* (February 17, 1993), 126. The English translation of the title of this article in "Inflationary Profit Should be Taxed."
5. SRF Normative Instruction No. 150, December 30, 1986.
6. Law No. 7.799, July 10, 1989.
7. In addition to prefixing the BTNF index, The Plano Collor, initiated in March 1990, attempted to stop inflation (running at 100 percent per month) by (a) restricting access to cash in banks, savings accounts, and other financial deposits and (b) changing the currency from the "cruzado novo" back to the "cruzeiro."

8. Ariovaldo dos Santos and Geraldo Barbieri, "Aumenta a Carga Tributária das Empresas (em Virtude da Subavaliação do BTNF)." IOB – Boletim 29/1990 – Informações Objectivas – Temática Contábil e Balanços (1990), 234–237.
9. The IMCS was subsequently extended to insurance companies in 1988 (SUSEP Circular No. 18) and to banks in 1993 (Central Bank Circular No. 2.285).
10. See for example, Hendriksen, Eldon S. and Michael F. Van Breda, *Accounting Theory, 5th edn.* (Homewood, IL: Irwin, 1992), 412–416.
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13. Hendriksen and van Breda, 413.
14. Ibid., 560.
15. CVM Instruction No. 138, January 16, 1991.
16. CVM Instruction No. 108, December 4, 1989.
17. CVM Instruction No. 191, July 15, 1992.
18. Ibid
19. The cruzeiro (CR$) was replaced in August 1993 by the "Cruzeiro real" which in turn was replaced in July 1994 by the "real" (R$).

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Transplanting Japanese Management Accounting and Cultural Relevance

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Key words: Cultural impact; Japanization; Just-in-Time; Target costing; Teamwork; Transferring cost

Abstract: *This study appraises, within an international context, the transplanting in the other countries of Japanese management techniques (including management accounting). The cultural characteristics of Japanese management (collectivism and non-separation of the relationship between family and company) are clarified utilizing Hofstede's model of value dimensions. The successful transplanting into Asia in terms of transferring cost is contrasted with its unsatisfactory results in the West. The high transferring cost reflects the strong cultural nature of Japanese management (teamwork and loyalty to a company) and its alien nature within the transferee countries. Transplanting is also analyzed using the cost-benefit to the transferees.*

Introduction

It is strongly believed by the Japanese business community that the successful penetration of Japanese economy into the international markets has been due to its management system (including its management accounting). Consequently, large Japanese businesses have actively been transferring their management systems to their overseas affiliates. Also, non-Japanese managers in other countries have, in pursuit of high quality and productivity, introduced Japanese management methods into their companies. Some call these types of transplanting "Japanization".[1]

After a decade of implementation, some analysts have praised Japanization for its success, while others have criticized it for its detrimental impacts, especially the cultural conflicts caused in the transferee countries. It is therefore important to discuss the transplanting of Japanese management from a cultural viewpoint – an

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approach which so far has scarcely been entertained. Thus, the aim of this paper is to examine the relationship between management accounting and culture[2] and to explicate the cultural characteristics of Japanese management.[3] Also the fundamental structure of Japanese management and its difference from the transplanted management will be clarified. Moreover, an evaluation of the transplanting from the viewpoint of transferring cost will be made in a comparative analysis with Western and Asian countries.

Culture and Management Accounting

The relationship between accounting and culture has received noteworthy consideration in recent accounting literature, mainly in the field of financial accounting. The aim of such research has been either to clarify fundamental aspects of accounting or to explore the possibility of an international harmonization of financial accounting.[4] Although the relationship had not yet been clarified, fortunately, in a recent paper, Ueno and Wu have made a comparative study on the influence of culture in the budgetary control practices of the United States and Japan.[5] Relying on the cultural dimensions addressed by Hofstede, their study examines the influence of Japanese collectivism on budgetary control as compared with American individualism. Their study is significant for distinguishing between the features of management accounting methods in both countries, but a deeper analysis may be required in order to reach a more definitive understanding of Japanese management accounting.[6] This is because they link the cultural idea of collectivism or individualism directly with the evaluation of teamwork or individual performance, when each cultural idea can coexist with the two evaluations;[7] the cultural idea must be conceptually distinguished from the performance evaluation methods.

When the broadness of culture is linked directly with the narrow concept of budget control practice, the latter often cannot reflect important features of culture. This is because a management system in the aggregate embodies the essential features of culture. Hofstede's value patterns should not be separated into parts to recognize the cultural features of accounting: power distance, uncertainty avoidance, individualism, and masculinity.[8] This paper will consider the dimensions of Hofstede's value patterns from the synthetic viewpoint. At the same time, to elucidate the relationship between the transplanting of management and culture, the four value dimensions will be examined from a more limited (managerial) view than Hofstede's (national) one.

As Hofstede argues, power distance and uncertainty avoidance are closely related to the functioning of organizations within a nation. In business organizations, whether large or small, the extent of power distance depends ultimately upon the dispersed size of decision-making. This has an implication for those who have the power to take decisions at each management level. The extent of centralization or decentralization in decision-making corresponds to the development of a modern organization or from a one-man concern to a modern joint stock company. Uncertainty avoidance links itself strongly to certain types of organizations: functional department,

division, or matrix system. These types of organization give decision-makers different relevant information and avoid uncertainty in varying degrees. Some types do not fit happily with the relevant information and are inferior to others in terms of uncertainty avoidance. Others are relevant and flexible for decision-makers.

Therefore, power distance is inseparable from uncertainty avoidance. These two dimensions represent an organizational culture. The organizational culture has been strongly influenced by the formation of the modern organization as determined by the development of the market economy: management functions have become more specialized and decentralized as the social division of labor has become extensive; management must coordinate the extensively divided jobs effectively and efficiently. The transformation from scientific management to recent excellent management represents this development process. Accordingly, decision-making within an organization has also been decentralized to various levels. Thus, the popularization of decentralized organizational units and dispersed decision-making are consistent with business enterprise practices in advanced countries.

By contrast, of the four dimensions addressed by Hofstede, the remaining individualism and masculinity belong to a national culture that is relatively independent of changes in business organizations. However, they join hands with it since, as Hofstede notes, they are more relevant to the functioning of individuals within organizations.[8] Durability or universality of national culture in a society definitely contrasts with the short history of organizational culture or its adaptability to environmental changes. The strength or weakness of individualism and collectivism depends upon the social production methods, climate, religion, language, historical social structures (e.g., contractual or centralized state), and civil revolution in each country. For instance, collectivism in Japanese management may be traced to its origins in rice farming and its culture to the dominant religions (Confucianism, Buddhism, and Shinto), a long warrior-dominated society, a halfway bourgeois revolution, and a centralized state.[9] Masculinity relates to a sense of household entrenched in the above origins. Considering business management, masculinity takes the shape of an undifferentiated situation between family and company or sexual discrimination in employment and working conditions. Strong masculinity means inequality in employment and working conditions for males and females, females having weak economic power and being subordinated to males. At the same time, a male worker must work hard for the sake of his family. Therefore, in the case of strong masculinity, it is very difficult for a family to become independent of a company. There is a strong loyalty to the company on the part of employees.

In Asian countries dominant management organizations are more closed than in the West, and a few top managers have strong decision-making power at all levels of management: the family company is an example. Ownership is not often separated from management. With regard to the national culture, management systems strongly depend upon collectivism and unspecialized situation of family and company. This is in striking contrast to individualism and the complete separation of family and company in the West, where diversified types of organization and decentralized decision-making have developed. In sum, the interaction between the organizational and national cultures distinguishes the cultural aspects of management accounting in each country.

Japanese Management Accounting and Culture

Target costing is typical of Japanese management accounting and closely related to Just-In-Time (JIT). Target costing consists of two processes: *genka kikaku* (cost design) and *genka kaizen* (continuous cost improvement). At the level of cost design, the target cost of a new product is estimated on the basis of a long-range profit plan and market price estimates. First, at the planning stage, the cost accountants and design engineers develop the target cost on the basis of the structure of the new product under the responsibility of a *shusa* (a chief engineer) with the aim at satisfying the needs of customers as well as penetrating the competitive international markets. Second, at the implementation stage, the expected actual cost is estimated from the viewpoint of value engineering. Production departments and subcontractors try to accomplish the target cost by improving production methods and adopting new materials and technology. Any variance between the target cost and the expected cost is thus minimized. At the stage of mass production (*genka kaizen*), the target cost is compared with the standard cost over a certain number of budgeted months (e.g., six months in Toyota) during which time improvements in efficiency may be obtained. Workers and managers in all departments at all levels are expected to endeavor to propose new cost and technological improvements on a daily basis in order to bring the standard cost close to the target cost.[10]

Target costing plays an important role in JIT. Interaction between cost accountants and engineers, the relationship between "feedback" and "feedforward,"[11] and the process of cost reduction in the design stage are unique features of JIT. The JIT system essentially consists of two subsystems: visible management and a new production system. The visible management, often called *kanban* in Japanese, relies partly on old Japanese culture[12] and partly on advanced information systems. The joint fundamental function of the visible management is to discover and remedy problems quickly. The new production system consists of small lots, zero inventory, multiskilling, short lead time, pull production method, a suitable arrangement of machines,[13] and a horizontal relationship between managers and workers. The production system must be designed to solve the problems discovered in the process of visible management. In the implementation of JIT Japanese management exhibits a strong control orientation which seeks collective and cooperative management, in contrast to the decisive role played by senior management in the United States (e.g., total quality control versus optimum inventory model). The benefit of human resource management in the solution of problems is explicitly recognized. In particular, Japanese middle and lower managers play an important proactive role in anticipating problems before they occur. In this system much depends upon the mutual trust between workers and managers, proper training, multiskilling of employees and a firm belief in the ability to amend inappropriate plans if everyone unites to control the operating management process. For this purpose, middle managers come down to the workshop, wear the same uniform as other workers, take lunch in the same canteen with them, and hold sports meetings or go picnicking with them. A shortage of such a middle management is questioned in Japanese overseas affiliates.

The combination of JIT and target costing results in a Japanese management system based on the concept of zero inventory and zero defects and ultimately an

integration of low cost and high quality. However, it should not be overlooked that this integration could not be implemented without longer working hours than those in the West[14] and without a system of cheap parts supplied by subcontracting companies. Despite their legal right, workers cannot, enjoy a paid holiday due either to "much organizational pressure", or to fear of being accused of reneging on their collective responsibility.[15]

When the impact of culture on management accounting is examined on the basis of Hofstede's value dimensions, it is indisputable that the strong national culture characterizes Japanese management accounting. When we picture a diagram whose horizontal line shows a separated relationship between family and company with its strength from the left to the right side, and whose vertical line shows the strength of individualism from the upper to the lower, Japanese management accounting belongs to the same quadrant (the fourth quadrant) as other Asian countries, in contrast to the West (the second quadrant). The fourth quadrant reflects collectivism and the family's strong identification with the company. However, with regard to the organizational culture, Japanese companies use similar types of dispersed decision-making and decentralized organization units as in the West. However, this organizational culture is transformed under the strong influence of the above national culture.[16]

In the West, it is believed that as the division of work becomes finer and the management function enhances specialization efficiency rises. This is called rationalism. Rationalism is based on the notion that individual specialization precedes coordination and integration. Therefore, management becomes very important for coordinating specialized jobs toward the realization of the corporate goal, especially when business companies have become large in size. In the whole process of management, strategic decision-making plays a decisive role. It is a prevailing belief that, even with the existence of high efficiency in workshops, it is not sufficient if the strategic decision-making is wrong. This makes an excellent contrast to the control-oriented and collective philosophy in Japan. In Japan the integrated and cooperative idea and the relationship of "piling-up" between managers and workers lie at the heart of management. According to this idea, the specialization of management function and division of work develop and change their shapes. Therefore, multiskilling, personal responsibility for plural sections of a production line, redeployment, and continuous training play an important part in this cooperative management.

Transplanting of Japanese Management in the West and in Asian Countries

The surveys by the Japan External Trade Organization (JETRO) provide some interesting data. Figure 1 shows the management methods the Japanese overseas affiliates in Europe were adopting from September 1991 to January 1992. Of 338 companies that responded to JETRO's questionnaires, more than 30 percent had transplanted the quality control circle, training, and horizontal organization systems (same canteen, uniform, open staff office, and convivial events) from Japanese

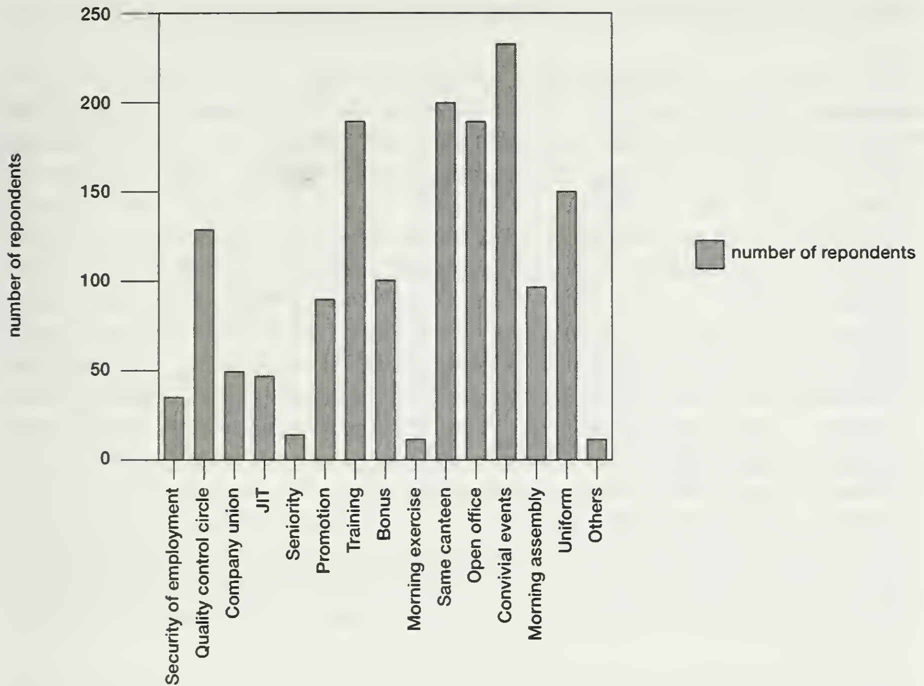

Fig 1. Japanese Management in Europe. JETRO, Management of Japanese Manufacturing Companies in Europe 1992 (Tokyo: JETRO, 1992), 46–48.

management to their companies. Some case studies of individual Japanese affiliates arrive at precisely the same conclusion. Although, in Table 1, some UK Japanese affiliates seem not to have adopted the quality control circle, there is no doubt that, judging from the extensive usage of teamwork, multiskilling and human resource management, they have emphasized quality control and high productivity. Other Japanese affiliates in the West try to reform the traditional vertical structure of control into a horizontal one.[17] The table shows the same tendency has occurred in Japanese affiliates in Taiwan. Therefore, the Japanese training system, quality control circle, and some horizontal organizations have been mainly transplanted to other countries to improve quality and raise productivity. However, these are only confined to the level of *genka kaizen* (cost improvement); the total system of Japanese management, which is based on the two-way and horizontal management and consists of visible management (*kanban* system), new production system and target costing, has not been transplanted.

This partial transplantation is also concerned with the delegation of decision-making. In Europe, top managers in Japanese affiliates have been only responsible for decision-making in the area of operating management: employment of workers and managers, working system, wage, procurement of materials, and planning of production and sales. Changing capital stock, appointing and dismissing directors, deciding investment and financing, and disposing of profits are left to the head

Table 1. Japanese management in the United Kingdom, New Zealand and Taiwan

Company	1	2	3	4	5	6	7	8	9	10	11	12
Nissan New Zealand		yes	agree		yes	yes				yes	yes	
Hoya Lens (UK)	yes		agree		yes	yes	yes	yes				a
Komatsu (UK)	yes		agree		yes	yes		yes	yes	yes	yes	b
Matsushita Elec. (UK)			agree		yes	yes	yes	yes	yes			
Yamazaki Machine (UK)	yes				yes	yes		yes	yes	yes		
Takiron (UK)			agree		yes		yes					c
Lucas SEI wiring (UK)		yes	agree			yes				yes	yes	d
A (Taiwan)	con.	yes	yes							yes	yes	
B (Taiwan)	con.	yes	yes	yes	yes	yes				yes		
C (Taiwan)	con.	yes	yes			yes	yes			yes		
D (Taiwan)	con.	yes	yes	yes	yes					yes		
E (Taiwan)	con.	yes	yes	yes	yes							

Williams, Alan, Bruce Owen, and Alan Emerson, *The Nissan* Way (Auckland: William Collins, 1991), 11–37. Simon Gleave and Nick Oliver, "Human Resources Management in Japanese Manufacturing Companies in the UK: 5 Case Studies." *Journal of General Management* (Autumn 1990), 54–68. Rocco Marinaccio and Jonathon Morris, "Work and Production Reorganization in a 'Japanized Company." *Journal of General Management* (Autumn 1991), 56–69. Hiroshi Kumon, "Japanese Car Manufacturing Companies in Taiwan." *Study of Social Labor* (Vol. 39 No. 2–3, 1991), 454–489.

1 = security of employment, mainly meaning lifetime in Taiwan and long career employment in the UK; "Con." means considering. 2 = quality control circle. 3 = company union in Taiwan and agreement with single union in the UK. 4 = seniority system. 5 = promotion. 6 = training. 7 = bonus system. 8 = wearing uniform. 9 = same canteen. 10 = teamwork. 11 = multiskills. a = computer system. b = company slogan, computer system, and moring exercise. c = moring assembly, "*kanban*," and JIT. d = design engineering and CAD system.

offices in Tokyo.[18] Japanese management is split into the two parts: long-term strategy at the head offices in Tokyo and product strategy by the Japanese affiliates in Europe. As a result, the target costing is also separated: *genka kikaku* in Tokyo and *genka kaizen* in local factories.[19]

There are some differences in the transplanting in the UK and Taiwan. Concerning labor unions, almost all Japanese affiliates in the UK have a single union agreement. After the model of the Nissan–Amalgamated Engineering Union agreement at Nissan UK,[17] Nissan New Zealand also negotiated an agreement for continuous quality control and the strong involvement of workers in decision-making. They try to encourage long-term career employment within the company to secure a stable relationship between managers and workers. However, Japanese affiliates in Taiwan place importance on the direct transfer of life-time employment and seniority system from Japan.[20] Although Chinese managers in Japanese affiliates have much wider decision-making powers in Taiwan than in the West, it is easier to transfer the same management systems as the Japanese to Taiwan. This is because management in the East Asian countries stands on the common basis of collectivism (authority, trust, and loyalty) and relates to a strong sense of family, patrimonial custom and state-oriented economic control. This cultural common basis is important for transplanting.

Transplanting of Management System and Transferring Cost

The recent finding by the Japanese Ministry of International Trade and Industry (MITI) from its investigation into overseas activities of Japanese affiliates indicates that their slump in the UK and the United States is in complete contrast to their outstanding success in some Asian countries (see Tables 2 and 3). This relates closely to the environment and culture in the countries into which Japanese management has been transferred. With regard to the environment, the Japanese affiliates in the West work under conditions of short working hours, high salaries, and an insufficient supply system of parts relative to their main companies in Japan. These situations prevent the transplanted management from linking high quality with low cost. The Japanese affiliates must pay dearly to establish an efficient and effective subcontracting system in the West, particularly in North America, because there is not as yet a regional supply system for parts and materials.

By contrast, Japan and the Asian countries have reasonable supply systems for cheaper parts and materials and this ensures that these countries trade mutually in the same area; hence they enjoy the merits of an international division of labor in this area. The ratio of imported electrical appliances and transport components from Japan is higher in the West than in Asia: in electronics and transport equipment industries, 41.5 and 62.8 percent in North America and 45.6 and 68.7 percent in

Table 2. Profit on investment in Japanese overseas affiliated companies in foreign countries (%)

Country	General machine		Electrical machine		Transport equipment		Precision machine	
	'89	'91	'89	'91	'89	'91	'89	'91
	'92		'92		'92		'92	
North America	4.3	0.9	–3.2	–6.7	–5.0	–10.0	–1.4	–11.5
	–0.7		–4.0		–2.9		–7.01	
Asia	30.5	28.8	13.7	12.3	11.3	32.9	18.0	13.4
	23.4		14.1		23.5		11.3	
Europe	–8.4	21.7	8.2	7.0	5.8	3.8	4.3	–14.2
	–11.9		–10.8		–1.7		–6.9	
Oceania		–28.2	12.5	–0.02	11.3	9.4	2.0	–5.8
	14.7		–3.3		–4.0		3.0	

International Business Section of Industrial Policy Department in MITI, *Business Activities of Japanese Companies in Foreign Countries, No. 18–19, No. 21, and No. 22* (Tokyo: Ministry of Finance, 1990, 1992, and 1993), 33–172, 37–156, and 39 and 131.

Table 3. Sales profit rate in Japanese overseas affiliated companies in foreign countries (%)

Country	General machines			Electrical machine			Transport equipment			Precision machine		
Year	'89	'91	'92	'89	'91	'92	'89	'91	'92	'89	'91	'92
North America	1.6	0.7	0.5	0.1	–1.1	–0.03	–1.4	–1.3	0.6	–0.04	–3.8	–6.4
Asia	7.5	5.8	5.1	3	3.1	3.5	3.1	7.0	4.8	2.2	2.3	16.7
Europe	–0.6	3.5	–1.4	1.3	2.0	–1.3	2.7	2.8	–0.1	0.5	–1.4	0.7
Oceania	5.3	5.3	1.5	1.4	0.1	0.3	2.6	2.6	–1.0	0.3	1.0	1.7

International Business Section of Industrial Policy Department in MITI, *Business Activities of Japanese Companies in Foreign Countries, No. 19–19, No. 21, and No. 22* (Tokyo: the Ministry of Finance, 1990, 1992, and 1993), 33–172, 37–156, and 39–131.

Europe, in contrast to 39.8 and 50.2 percent in Asia (see Table 4). According to JETRO's survey, of 163 Japanese affiliates that have strong relations with European manufacturing makers of parts, 96 (59%) complain about bad quality, high price, and late delivery.[17] Generally, it will be very costly to improve the quality of highly exclusive parts in the West by using Japanese management and establishing subcontracting systems. Therefore, the local procurement of electrical appliances is limited to electric wires, packaging, and resinous molds.[21]

The reason transplanting is very costly in the West is that it takes a long time for the benefit of high quality and productivity to exceed the high transferring cost. Generally, the transferring cost means what a company should pay to transfer its management systems to other countries. Japanese companies should pay a huge amount of money for training and establishing "the team system to rouse workers" since collective and cooperative activity is the pivot of Japanese management.[21] It may take a much longer time for Japanese management to dig its roots more deeply in the West than in Asian countries because their culture is so different from that of Japan. Even if Japanese management succeeds in transplantation for the short run due to its curiosity and uniqueness, there is no guarantee of durable success because of high transferring costs.[22]

In contrast to performance in the West – Japanese affiliates in Asian countries have continued to achieve high profit rates (see Tables 2 and 3). This is because they have been able to employ cheap labor there. Technicians of high skill in Singapore receive only one-third of the starting salary for Japanese college-educated office

Table 4. Ratio of local procurement of parts by Japanese overseas affiliates in each area (1992) (%)

Area and industry	1. From local	2. From others	3. From the same area within z	4. From Japan
North America (total)	(52.7)	(10.1)	(11.1)	(37.2)
1. General Machine	33	8.2	24.9	58.8
2. Electrical machine	26	9	25.5	65
3. Transport equipment	56	2.5	74.6	41.5
4. Precision equipment	36.4	0.8	7.4	62.8
Asia (total)	(33.7)	(26.7)	(76.1)	(39.6)
1. General machine	44.1	7.2	90	48.7
2. Electrical machine	43.8	16.3	34.6	39.8
3. Transport equipment	45.3	4.5	99.4	50.2
4. Precision machine	27.5	4.4	92	68.1
Europe (total)	(15.6)	(35.1)	(11.4)	(49.3)
1. General machine	52.4	8.8	92.8	38.8
2. Electrial machine	19	35.4	83.9	45.6
3. Transport equipment	35.3	6.6	91.3	57.9
4. Precision machine	22.3	9	99.1	68.7
Oceania (total)	(40.9)	(4.8)	(59.1)[a]	(54.3)
1. General machine	18.1	0.2	100[a]	8.17
2. Electrial machine	15.9	8.4	84.9[a]	75.7
3. Transport equipment	49.2	2.9	8.7[a]	47.9
4. Precision machine	8.6	22.1	100[a]	69.3

International Business Section of Industrial Policy Department in MITI, *Business Activities of Japanese Companies in Foreign Countries, No. 22* (Tokyo: Ministry of Finance, 1993), 90–101.
[a] Ratio of procurement from Asian area.

workers. In addition, they do not even mind working on Saturdays.[23] Japanese affiliates could establish the international procurement system of parts in Asia. Table 4 shows that the ratio of local procurement is not only high, but also parts and materials are procured at a high rate inside the Asian countries. In the transport equipment industry, 99.4 percent of procurement from other countries except Asian local procurement depend upon supply from the other Asian countries.

It is easier and less costly to send Japanese managers to Asia to transfer the beneficial Japanese management than to send them to the West. First, transportation costs and living expenses in Asia are comparatively cheaper. Second, and what is even more important, is that so many managers do not need to stay at the Japanese affiliates in Asia to transfer Japanese management; managers in Asia can easily understand Japanese culture, setting it aside whether or not they approve of it – their attitude to management is not quite foreign to Japanese management. Third, the training cost is not as high in Asia as in the West. The local training cost is also not so high in Asian countries due to a common culture under which it is not necessary to transfer the cultural aspects of Japanese management minutely. Table 5 shows that the return on investment (ROI) has some relationship with the number of seconded Japanese managers and their ratio to the total employees in Japanese affiliates. In the ROI, North America is the lowest of the four areas. This may be due to its largest number of seconded Japanese managers and their highest ratio to the total of employees in the four areas. In Asia the contrary situation is observed. Because human resource management performs an important function in Japanese management, the cost of seconding Japanese managers to other countries for training programs is enormously expensive. This strongly influences ROI for Japanese affiliates.

Although Japanese management succeeded in penetrating international markets with its products, it does not further suggest that the transplanting of Japanese management will be beneficial to other countries. In addition, although Japanese affiliates have continued to achieve good business results in Asia, it would be too hasty to conclude from this that "Japanization" is beneficial for Japan and other Asian countries. The merits and demerits of transferring Japanese management into other countries must be appraised not only from the viewpoint of transferring cost,

Table 5. Number of seconded managers and ROI in electrical and transport equipment industry

Industry and area	1989			1991			1992		
	(1)	(2)	ROI	(1)	(2)	ROI	(1)	(2)	ROI
Electrical machine									
1. North America	3.0	12	–3.2	2.84	12	–6.7	3.02	12	–4.0
2. Asia	1.05	6	13.7	1.06	6	12.3	1.06	6	14.1
3. Europe	2.95	5	8.2	1.50	5	7.0	1.43	6	–10.8
4. Oceania	2.4	8	12.5	2.65	6	–0.02	2.37	6	–3.3
Transport equipment									
1. North America	4.53	14	–2.9	3.66	17	–1.1	3.50	17	–2.9
2. Asia	0.81	3	23.5	0.86	4	3.1	0.75	4	23.5
3. Europe	0.89	7	–1.7	1.15	7	2.0	1.29	9	–1.7
4. Oceania	0.59	6	–4.0	0.52	7	0.1	0.62	7	–4.0

International Business Section of Industrial Policy Department in MITI, *Business Activities of Japanese Companies in Foreign Countries, No. 18–19, No. 21, and No. 22* (Tokyo: Ministry of Finance, 1990, 1992, and 1993), 33–1172, 37–156, and 39–131.
(1) means the ratio of seconded Japanese managers to the total employees in Japanese affiliates; (2) means averaged number of Japanese managers per Japanese affiliate.

but also from the angle of the cost–benefit in the transferee countries. Its strong friction with the native cultures of other countries should be further considered: hard work, high speed of assembly, no overtime pay, illness, stress, and isolation of workers, and discrimination.[24] JETRO's survey also finds that European managers and workers in Japanese affiliates are annoyed with the Japanese management practices.[17] Concerning teamwork, one should pay attention to the different attitudes of Japan and the United States. In the United States teamwork or consensus per se does not make sense. It is more important for individuals to be informed and skilled to solve problems efficiently.[7]

It is most important to clarify the fundamental features of excellent management at present, including Japanese management, as well as cultural conflicts. Comprehension of these features will provide every country with the basis on which to establish management accounting suitable for its culture. Japanese management has also aimed at integrating high quality and low cost although traditional ideas have considered their relation as a trade-off.[25] This shift in ideas must be analyzed theoretically. The combination of specialities (e.g., multiskilling) and horizontal organization (e.g., teamwork) enables the integration of low cost and high quality.

Activity-based costing is completely different from the Japanese target costing. Activity-based costing focuses on the reciprocal relationship between cost and cost driver (physical factors or activities). It is one method through which the manager makes better decisions and timely cost information for profitability of products. Originally, this method had nothing to do with the horizontal management of organization. However, some American companies have tried to connect these two, so that Activity-based costing may be of use not only for decision-making, but also for daily cost improvements.[26] Activity-based costing and target costing are special types of excellent management accounting.

Of course, it would be worthwhile to ascertain and analyze the general characteristics to be obtained from the special types of excellent management accounting in many countries. However, such a task lies outside the scope of this paper; hence it will be pursued in a future article.

Conclusion

Japanese management is strongly influenced by the Japanese national culture: collectivism. It is linked with the organizational culture introduced from the West: rationalism. The cultural characteristics of the management can be summarized as horizontal and control-oriented organizations, collective effort, and lack of distinction in loyalties to family and company (strong "masculinity").

Japanese management consists of visible management, the new production system, and target costing. However, the management transplanted into other countries is only a part of Japanese management. Teamwork and total quality control have mainly been transplanted in other countries separately from long-range strategy and investment policy. These management methods link closely with Japanese culture. This transfer of national culture to other countries has caused more serious problems than the transfer of the organizational culture.

Judging from transferring cost, "Japanization" is very costly. If there are not enough conditions for benefit from transferring cost, Japanese companies cannot achieve profit from the transplanting of management. For example, the high salaries, short working hours, and insufficient supply systems for cheap parts in the West are in marked contrast to the beneficial conditions in these areas in the Asian countries. Because the training and seconding costs of Japanese managers are the main factors in transferring cost, these influence the profitability of Japanese affiliates in the West and in Asian countries. The amount of transferring cost indicates the extent of difficulty in the transplanting of management accounting into other countries and also its impacts on the profitability of Japanese affiliates. Therefore, transferring cost is also an important criterion of successful transplanting of management.

Furthermore, transplanting must be evaluated from the cost–benefit in the transferee countries. When transplanted management produces cultural conflicts in the transferees, it should be molded into a management system suitable for the cultures of the transferees. One must consider the optimum condition for low transferring cost in order to maximize the benefit for the transferee countries. Therefore, both the quality and quantity of transferring cost should be examined in depth. It is very important to make the general characteristics of present excellent management accounting clear and to develop an advanced management accounting suitable for the national culture of each country.

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2. Culture is considered behavior and thought patterns in a particular society which have been established over a long period of time in relation to its religions, arts and way of life. However, with regards to Japanese culture, the main subject of discussion in this paper will be strong collectivism and masculinity.
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Management's Response to Finance Lease Capitalization in Spain

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Key words: Economic consequences; Lease capitalization; Spanish accounting

Abstract: *In 1990 Spain introduced a requirement for the capitalization of finance leases. This paper reports on managers' reactions to this requirement, and is of international interest because: (1) the "economic consequences" issues that arise have been extensively debated in the English-speaking world but have not been similarly evaluated in other cultures; (2) the "substance over form" concept that underlies finance lease capitalization is alien to the Roman law tradition that applies to Spain. The survey indicates that Spanish financial managers are likely to react to finance lease capitalization in a way such as to cause negative economic impact.*

In December 1990 a new "Plan General de Contabilidad" (PGC – the general accounting plan) was issued in Spain. This implemented the European Community Fourth and Seventh Directives in Spanish accounting law. The new PGC also covered one matter not addressed in the EC directives –the accounting treatment of lease agreements, requiring the capitalization of finance leases. This requirement is of particular interest for two reasons:

1) The "substance over form" convention, which underlies capitalization of finance leases, is alien to the Spanish accounting and legal tradition.
2) Finance lease capitalization gives rise to a number of questions over "economic consequences" issues, of a kind which have been extensively debated and researched in the United States and the United Kingdom but have attracted little attention in Spain.

This paper reports the results of research involving a questionnaire survey of Spanish managers on the subject of accounting for leases by lessees. The objective is both to contribute to the debate over lease accounting and to stimulate awareness of the nature and significance of "economic consequences" issues.

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The Emergence of Regulation on Lease Accounting in Spain

Before 1973 Spain had no general provision for accounting regulation, although detailed regulations for accounting in specific sectors, particularly financial, can be found from 1922.[1] In 1973 Spain's first PGC, being the "General Accounting Plan," was published. This was based on the French Plan of 1959, providing detailed guidance on accounting presentation and principles.

In 1976 a government body under the Treasury, the "Instituto de Planificación Contable" (IPC), was formed with responsibility for overseeing and amending accounting regulation. One of the first amendments made to the PGC was concerned with accounting for leasing. Legislation in 1977 provided special rules on accounting for finance leases by lessors. The definition of a finance lease is more restrictive than in the United States or the United Kingdom. In particular it was provided that: "The lease conditions must include a purchase option in favor of the user at the end of the lease".[2] Subsequently IPC permitted, but did not require, finance lease capitalization by lessees.

In 1979 a private sector body, the "Asociatión Española de Contabilidad y Administracion de Empresas", (AECA), was formed. AECA currently has some 3500 individual and 500 corporate members[3] drawn from academics, accountants in industry, and public practitioners.

AECA issues recommendations on accounting principles which are not mandatory but are highly influential because:

(1) Their high technical quality commands general respect in Spain, resulting in widespread adoption by Spanish accountants.
(2) AECA recommendations have proved influential in the subsequent formulation of government regulations on accounting.

AECA, in a recommendation issued in 1981, suggested a broader definition which would have recognized a finance lease as arising if one of two conditions had been provided for at the end of the primary lease period:

(1) "To enter into a new finance lease at much reduced payments".
(2) "To acquire the leased asset at its residual value".[4]

In 1988 IPC was replaced by a new body, the "Instituto de Contabilidad y Auditoria de Cuentas" (ICAC). The main difference between IPC and the new body, ICAC, is that the latter has responsibility for the oversight of auditing as well as accounting in Spain. In 1990 a new PGC was issued, responding to Spain's obligation as a member of the EU to implement the audit and accounting requirements of the Fourth, Seventh and Eighth Directives on company law. Spain entered wholeheartedly into the spirit of these Directives, introducing the "true and fair view" overriding requirement ("imagen fiel" in Spanish), and breaking the traditional tie between tax and accounting rules. Although lease accounting is not covered in any EC directive, a requirement to capitalize finance leases was included in the new PGC. Since few companies had previously exercised the option to capitalize finance leases allowed under the 1977 legislation, the 1990 PGC marks the commencement of finance lease

capitalization for most Spanish companies. The PGC of 1990 defines a finance lease somewhat more narrowly than the 1977 legislation, stipulating that a finance lease must include a purchase option and that "there must not be any reasonable doubt that the purchase option is going to be exercised".[5] The accounting rules for finance leases indicate some reluctance to go fully down the road of "substance over form". A capitalised finance lease is shown as an intangible rather than as a tangible asset although the corresponding obligation appears as part of liabilities. A transfer from intangible to tangible assets is then made when the purchase option is exercised. A subsequent AECA recommendation issued in 1991 argues against the classification of assets held under finance leases as intangible.

The decision of ICAC to classify leased assets as intangible is described by two Spanish academics in these terms:

> "because certain groups of people, influential in the drawing up of accounting standards, were unwilling for (leased assets) to be entered (as tangible) a somewhat strange formula was agreed upon in which they were to be considered intangible fixed assets and an item was created specially, called "rights on leased property".[6]

The tone of this observation, and the AECA opinion, both indicate some distaste for the classification of leased assets as intangible rather than tangible. One reason for the approach by ICAC may have been to respond to a point made by the Asociación Espanõla de Leasing (AEL), the Spanish Leasing Association. AEL were concerned that any ambiguity in the definition of a finance lease might give rise to "double counting" in the compilation of national economic statistics, with the same fixed asset appearing in the accounts of both lessor and lessee.[7]

This concern to ensure that the accounts form a reliable basis for macro economic planning is characteristic of the "Plan" based system which Spain has adopted from France. It is interesting to contrast this with a comment in the USA that "For every lease that is capitalised on the books of a lessee, there should be a sale or a direct financing, recorded by a lessor".[8] That observation introduced a warning on the dangers of premature recognition of income and consequent misleading of the markets.

Economic Consequences

The Spanish leasing association has observed that: "From 1991, the change in the accounting treatment of the lessee also removes the off-balance-sheet advantage of leasing."[9]

Figure 1 shows the annual growth or decline of the Spanish leasing market.[10] It appears that the particularly striking growth in 1987 was to take advantage of some tax incentives withdrawn at the end of that year. The loss of the off-balance-sheet benefits of leasing, therefore, coincides with a time when the Spanish leasing industry is already suffering from both the loss of some tax benefits and a downturn in the Spanish economy.

Studies in the United States[11] the United Kingdom,[12] and India[13] have indicated that managers, when confronted with a requirement to capitalise finance leases, have tended to respond by moving away from finance leases. Indeed, this reaction is one of the most widely cited examples of how a change in accounting rules can give

	%
1986 growth	53
1987 growth	165
1988 growth	20
1989 growth	16
1990 decline	(5)
1991 decline	(2)
1992 decline	(24)
1993 decline	(38)

Fig. 1. Annual growth or decline of the Spanish leasing market

rise to "economic consequences".[14] This information induction[15] effect depends on *management's* perception of how users will react to accounting data. That is:

For a management response to an accounting change to arise it is not necessary that change should have an actual economic impact on management, it is only necessary that management believe that there will be a change in the behaviour of users of the accounts and that this will have a negative effect.[16]

In order to assess the likely economic impact of a requirement to capitalize finance leases in Spain, we addressed a questionnaire to financial managers in Spanish companies.

The questionnaire was completed by 82 managers of Spanish companies who participated in management development programs in various Spanish academic institutions in early 1994. Completion of the questionnaire was voluntary; in practice, almost all those approached did respond. This method of approaching managers was chosen because Spanish managers are noted for their reluctance to complete questionnaires received through the mail. A recent study reports a response rate from Spanish accountants of 15.3 percent, and cites evidence that this is in line with general Spanish practice.[17]

The questionnaire contained the following elements:

(1) Identification of data of the respondents and their companies. Respondents were asked for their company's size on the criteria specifies in the PGC, whether the share capital is owned in whole or in part domestically or by foreigners,[18] whether the company is quoted on a stock exchange, and the order of importance attached to the five user groups listed in the PGC.

(2) An enquiry as to whether the company uses leasing and, if so, what importance attaches to various factors in that decision.

(3) Two questions then address the question as to how managers expect companies and managers to react to the requirement to capitalize finance leases. The question is formed so as to ask how managers think business in general, rather than just their own specific company, will react because evidence in the United Kingdom suggests that managers regard the off-balance-sheet finance benefits of leasing as "OK for the other guy" but "too much of questionable financial practice to claim it for oneself". [19] In discussions with Spanish accountants when formulating the questionnaire we found that capitalization of finance leases frequently improves reported profit in the early years of the lease rentals, so we included

questions to ascertain whether this reported profit improvement would make lease capitalization positively attractive to Spanish managers This issue has not been addressed in comparable studies in other countries. An Australian study explicitly observes "lease capitalization usually results in shifting net income from earlier to later years".[20]

(4) Managers' views on their preferred accounting treatment for leases are explored from two perspectives:
   (a) Would they prefer the lease capitalization requirements in the PGC, more comprehensive definition of a finance lease, or abolition of lease capitalization?
   (b) Would they prefer to show assets held under finance leases as tangible, as preferred by AECA, or intangible, as provided in the PGC?

Data on the Respondents

Data on the size, ownership, listing status, and attitudes of respondents to the order of importance of users of accounts are summarized in Tables 1–4.

Table 1. Size of business on the basis of the criteria laid down in the General Accounting Plan

	Number	%
Small	44	53.7
Medium	13	15.9
Large	24	29.3
Not answered	1	1.2
Total	82	100.00

Table 2. Ownership of business

	Number	%
100% Spanish owned	56	68.3
Spanish majority –foreign minority	10	12.2
Foreign majority – Spanish majority	4	4.9
Spanish minority 100% foreign owned	11	13.4
Not answered	1	1.2
	82	100.0

Table 3. Stock exchange listing

	Number	%
Yes	9	11.0
No	73	89.0
	82	100.0

Table 4. Order of importance of users of accounts

	1	2	3	4	5
Shareholders	61	13	4	0	1
Creditors	3	22	16	12	7
Employees	10	11	6	4	16
Government	6	21	25	6	6
Competitors	1	4	9	20	10

Motives for Leasing

Tables 5 and 6 report the characteristics of businesses where managers say leasing is used. Foreign owned companies were rather more likely to employ leasing than Spanish owned companies, while small companies were slightly more likely to use leasing than other companies.

Table 7 shows the relative importance of various factors in the decision to use leasing. Tax, not surprisingly, is thought far ahead as the most important. The two other factors that attract over 50 percent responses as "very important" or "important" relate to the ability to finance 100 percent of asset costs and the flexibility of lease payments.

Table 8 shows a comparison of the results of this survey with two studies of UK managers response to similar questions, one published in 1976[21] and one in 1990.[22] This confirms that Spanish managers are particularly concerned with the tax benefits, the ability to finance 100 percent of assets, and the flexibility of payments offered by leasing.

Table 5. Comparison of usage of leasing with size

	Do you use leasing to finance investment?	
	YES	NO
Small		
Number	30	14
%	68.2%	31.8%
Medium		
Number	9	4
%	69.2%	30.8%
Large		
Number	14	10
%	58%	42%
Unspecified size		
Number	1	–
Total		
Number	54	28
%	65.9%	34.1%

Table 6. Comparison of usage of leasing with foreign ownership

	Do you have leasing to finance investments	
	YES	NO
100% Spanish owned		
Number	35	21
%	62.5%	37.5%
Part or wholly foreign owned		
Number	18	7
%	72%	28%
No answer on ownership	1	–
Total		
Number	54	28
%	66%	34%

Table 7. "If your business uses leasing, show the importance of each of the following factors in deciding whether to enter a financial lease"

	Very important	Important	Moderate importance	Little importance	No importance
Tax advantages					
Number	45	4	2	2	3
% answering	80.4	7.1	3.6	3.6	5.4
Finance cost					
Number	3	8	12	4	20
% answering	6.4	17.0	25.5	8.5	42.6
Conserving liquidity					
Number	4	10	18	4	13
% answering	8.2	20.4	36.7	8.2	26.5
Leasing can include other services					
Number	7	8	8	12	14
% answering	14.3	16.3	16.3	24.5	28.6
Protects against asset obsolescence					
Number	9	9	11	8	12
% answering	18.4	18.4	22.4	16.3	24.5
Finance 100 % of asset costs					
Number	17	7	8	5	10
% answering	36.2	14.9	17.0	10.6	21.3
Timing and amounts of lease payments are flexible and can be negotiated					
Number	22	5	10	6	6
% answering	44.9	10.2	20.4	12.2	12.2

Table 8. Percentage of respondents showing factors as "very important" or "important"

Factor	Spanish study	UK study 1976	UK study 1990
Tax advantages	87.5%	[a]	67%
Leasing can include other services	30.6%	[a]	10.5
Conservation of working capital	28.6%	76%	25.2%
Permits 100% financing	51.1%	37%	15%
Flexibility of payments	55.1%	30%	8.4%
Protects against asset obsolescence	36.8%	21%	[a]

[a]Questions not asked in comparable form.

Managers' Reactions

Table 9 shows managers reactions to the requirement to capitalize finance leases. Interestingly, a substantial majority (61–81%) see that this requirement will promote a preference for operating leases to avoid the impact of leverage while a smaller majority (45–32%) see the requirement promoting a preference for operating leases to improve profitability. When it comes to predicting how companies will react overall, there are a substantial number predicting a reduction in finance leases leading to the use of other sources of finance (54%) or reduced investment (30%). By contrast considerably fewer managers saw leasing becoming more attractive, leading to replacement of other sources of finance (11%) or increased investment (10%). Tables 10 and 11 relate managers' expectations as to these key "economic consequences" to their ranking of creditors as users of accounts. Table 10 shows that the prediction of a negative impact of lease capitalization is similar whether creditors are ranked high (1–2) or low (3–5) as users. By contrast Table 11 shows that prediction of a positive impact of lease capitilazation is more likely where creditors are ranked as low users.

Table 9. "The General Accounting Plan requires that a finance lease should be shown, as an intangible fixed asset and as a liability. How do you think companies will react to this situation?"

	YES	NO	DON'T KNOW OR NO ANSWER
Companies will prefer operating leasing leasing, so as not to have to capitalize leases	50 61%	15 18%	17 21%
Companies will prefer finance to operating leases to improve profitability	37 45%	26 32%	19 23%
Leasing will lose some of its attractions, in favor of other forms of finance	44 54%	16 20%	22 26%
Leasing will be less attractive, so that some investments will not be made	25 30%	29 35%	28 34%
Leasing will be more attractive, and so will replace other forms of finance	9 11%	40 49%	33 40%
Leasing will be more attractive, so that investment will ncrease	8 10%	41 50%	33 40%
The accounting complications of lease finance will make operating leases more attractive	45 55%	18 22%	19 23%

Table 10.

	Creditors ranked 1–2		Creditors ranked 3–5	
	YES	NO	YES	NO
Leasing will lose some of its attractions in favor of other forms of finance	14 67%	7 33%	19 70%	8 30%
Leasing will be less attractive so that some investments will not be made	8 40%	12 60%	9 37.5%	15 62.5

Table 11.

	Creditors ranked 1–2		Creditors ranked 3–5	
	YES	NO	YES	NO
Leasing will be more attractive and will replace other forms of finance	1 6%	17 94%	8 36%	14 64%
Leasing will be more attractive so that investment will increase	1 6%	15 94%	7 29%	17 71%

These "information inductance" effects depend, as we have discussed above, on how managers' expect analysts to perceive lease capitalisation in the accounts. Table 12 shows that managers' expectations of analysts' reaction, showing 72 percent expecting a perception of higher leverage compared with 45 percent expecting the perception of higher profit, is consistent with the overall tendency of managers to take a negative perception of the impact of lease capitalization. Their 74 percent expectation that analysts will not understand lease capitalization is also consistent with an anticipated naive response.

Table 12. "How do you think analysts will react to accounts when finance lease agreements are capitalized on the balance sheet?"

	YES	NO	DON'T KNOW OR NO ANSWER
They will perceive the company as being more highly leveraged	59 (72%)	17 (20.7%)	6 (7.3%)
They will perceive the company as having a lower asset base than if assets had been financed in another way	31 (37.8%)	42 (51.2%	9 (11%)
They will perceive the business as more profitable than if operating leasing had been used	37 (45.1%)	30 (36.6%)	15 (18.3%)
They will not understand the nature of a finance lease because the legal and accounting aspects are not easy to understand	61 (74.4%)	10 (12.2%)	11 (13.4%)

Table 13. "Which of the following bases for accounting for leases do you think is most appropriate?"

	Number	%
All Leases should be accounted as rental as rental agreements	40	48.8
The definition of a finance lease should be expanded to include some agreements currently classified as operating	11	13.4
The rules currently laid down in the General Accounting Plan	12	23.2
Don't know or not answered	19	23.2
	82	100.0

Table 14. "Do you think that assets held under a finance lease should be shown as tangible rather than as intangible?"

	Number	%
YES	61	74.4
NO	18	22.0
DON'T KNOW	3	36.6
Total	82	100.0

Managers Preferences

Table 13 shows managers' preferences on lease accounting rules. In view of their expectations as to analysts' response, it is not surprising that they tend to oppose lease capitalization. The strong opposition to the classification of leased assets as intangible, as shown in Table 14, seems in line with the general distaste of the Spanish accounting profession for this approach.

Implications for Accounting Regulation

Discussion of the effect of the economic consequences of accounting regulation have arisen in relation to explaining the motivation for lobbying and considering the extent to which it is legitimate for accounting regulators to be influenced by these factors. Thus Zeff has defined the term "economic consequences":

> By economic consequences is meant the impact of accounting reports on the decision-making behaviour of business, government, unions, investors and creditors. It is argued that the resulting behaviour of these individuals and groups could be detrimental to the interests of other affected parties. And, the argument goes, accounting standard setters must take into consideration these allegedly detrimental consequences when deciding on accounting questions.[23]

A range of views can be identified on the legitimacy of allowing economic consequences to influence accounting regulation:

(1) Awareness of these issues can lead to the argument that "the setting of accounting standards is as much a product of political action as of flawless logic or empirical findings",[24] or perception of accounting regulation as "essentially a political process".[25]

(2) Against this view advocates of a "neutrality", a view that accounting rules should not be chosen by reference to how they might influence a decision or judgement, argue that "the criterion by which rules are to be judged is not the effect they may or may not have on business behaviour".[26] The essential feature of accounting regulation is the provision of "a level playing field"[27] and any other approach means that "the credibility of the information being supplied is lost or damaged".[28]

(3) Between these two views a compromise can be identified, a "mixed strategy"[29] whereby some form of assessment of economic impact is combined with the development of a "technical solution" based on a conceptual framework.

The Spanish accounting regulating body, ICAC, does not retain records of representations made on accounting issues, and such representations are not necessarily even made in writing. The then chairman of the Spanish leasing association, AEL, has put on record the association's views on the new rules on lease capitalization. Referring to the original proposals he writes:

> The contents which affect accounting for leasing contracts presented various controversies which become a serious concern for the sector, since the continuation or elimination of this financial formula was at stake, as it directly affected its identity by destroying its basic characteristic, which precisely justifies its presence in the financial sector.

In an apparent reference to AEL's successful lobbying for the treatment of capitalised leased assets as intangible he then goes on to add:

> Consequently, the AEL, corroborating the opinion of the State Council, General Tax Administration, Treasury Department, and making reference to several supreme Course decisions, finally obtained a transactional solution which was included in said Decree Law.[30]

In a subsequent review of the downward trend in leasing from 1989 to 1992 the chairman of AEL lists as factors that explain that decline tax factors bad debts, problems for lessors in raising finance, and the strong line on providing bad debts in the books of lessors taken by the Bank of Spain.[31] What is interesting in this analysis is the exclusion of any reference to the new accounting rules on finance lease capitalization, suggesting that AEL continues to be satisfied with these.

To summarize, AEL appear to have successfully lobbied for the treatment of capitalized leased assets as intangible in the belief that this would alleviate the economic impact of finance lease capitalization. This survey of the attitudes of Spanish managers suggests both that the negative economic impact of finance lease capitalization has occurred and that the treatment of leased assets as intangible rather than tangible increases rather than reduces that negative impact. We would argue that this suggests a need for both lobbyists and accounting regulators to research perceived economic impact issues before taking them into account.

Conclusion

Spanish managers appear to anticipate a negative economic impact arising from the requirement to capitalize finance leases. Only a small number of managers, mainly those who give creditors low importance as users of accounts, expect a positive economic impact. Thus the Spanish leasing industry appears to have judged rightly in expressing its concerns that the new accounting rules on lease capitalisation will reduce both the use of leasing and investment levels. However, AEL, the Spanish leasing association, may have exacerbated this effect in their successful lobbying for leased assets to be shown as intangible.

Further research might usefully explore analysts' reactions to finance lease capitalization in order to ascertain whether the pessimism of Spanish managers is justified.

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Budgetary Control Systems in Public Sector Enterprises in a Developing Country: Some Evidence from Bangladesh

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Key words: Bangladeshi jute mills; Budgetary satisfaction; Management control; Participation; Public enterprises

Abstract: *This study represents an attempt to explore how the managers involved in practice perceived organizational processes, such as budgeting, in their organizations. The specific focus is to provide evidence from Bangladeshi nationalized jute mills of the nature of the systems of budgeting and managers' perceptions and attitudes in this context. A number of significant factors emerged. First, the study revealed little participation from the practice-level management in the budget setting of the mill and mill managers wanted more involvement in this context. Second, although budgeting was perceived as the formal tool of accountability and control, it was not a dominant mode of control at mill level: budgets play little role in the activities of the mills. Finally, mill managers were highly dissatisfied with the various aspects of the budget, such as participation, flexibility, timeliness, usefulness, and motivation. This study extends earlier research claiming that managers involved in practice and other institutional (internal and external) factors are major influences on the design and the operation of the formal systems of budgeting in organizations.*

Until recently, numerous studies have provided evidence of the design and the uses of the budget in organizations (see Bruns and Waterhouse, 1975; Macintosh, 1985; Brownell and McInnes, 1986; Lyne, 1988; Mia, 1993; Ezzamel, 1990). These findings are based either on evidence from a wide variety of firms located in developed economies or are theoretical in nature. Relatively, not much is evident in management accounting literature concerning how budgets work and influence a manager's behavior in firms of developing countries. The present study attempts to help redress this neglect.

This paper reports the findings of an empirical study of the systems of budgeting and their associated behavior in nationalized jute mills[1] of Bangladesh. The reason

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for doing this is to add to the limited knowledge of budgetary control problems in developing economies. This study provides additional material to enhance comparative analyses of budgetary controls between developed and developing countries, though such practices undoubtedly differ from country to country because of their socioeconomic and cultural factors. Three specific issues are addressed by this paper:

(1) managers' perceptions and attitude of the actual and the desired level of participation in the budget process;
(2) managers' ratings of the actual and the desired role of the budget; and
(3) managerial satisfaction with the systems of budgeting.

This study attempts to explore how the managers involved in practice perceived organizational processes such as budgeting in their mills. The focus here is to understand the nature of the systems of budgeting and managers' perceptions of the system in a developing country context.

The remainder of this paper is organized as follows. The next section outlines the methods adopted in this study. The findings and analysis of the study are then presented. The final section comprises conclusions, limitations, and implications of the results.

Data and Method

Sample

The nationalized jute industry of Bangladesh[2] was chosen for conducting this study for a couple of reasons. First, it is the largest manufacturing industry of Bangladesh, employing approximately 200 000 workers and is highly significant economically and politically: over one-third of the population are directly or indirectly dependent on jute and are engaged in jute-related activities (Government of Bangladesh, 1985; FAO, 1989). Second, it has a well-developed accounting and budgetary control system in practice.

Although the privatized jute industry plays a significant role in the economy of the country, the public sector predominates (Government of Bangladesh, 1985). A questionnaire[3] was mailed only to all of the public sector jute mills with a covering letter, which explained the nature of the research project and indicating that the BJMC Head Office had approved the study.

The pilot study,[4] through a series of interviews with key personnel of BJMC and of a mill, discovered that only senior managers had adequate knowledge of the total organizational processes of the mills. Consequently, the respondents of this study included: mill managers, most of whom were the project heads, and heads of accounts and finance, cost and budget, marketing, and production.

Eighty-one questionnaires were mailed to the managers of the sampled mills. They yielded 56 responses, a response rate of 69%. Twenty-seven questionnaires were distributed to the selected key individuals at the head office (HO). Unfortunately, despite several reminders, only six responses were received (a response rate of 22%). Consequently, it was not possible to compare the perceptions of the HO staff

Table 1. A profile of respondents participated in the questionnaire survey

Age:	
Average = 40.2 years	
Median = 40.3 years	
Range = 30–55 years	
Gender	
Male	100%
Education	
Graduation	80%
Postgraduate/Professional	20%
Functional division	
Accounts, finance marketing, and production	58%
General management	42%

and the mill managers about the systems of budgeting in the mills. However, all these HO staff were interviewed during the field study. A profile of the responding managers is shown in Table 1.

A series of postquestionnaire interviews was conducted with 12 personnel of BJMC and of three mills: Adamjee jute mills, Bawa jute mills, and Latif Bawany jute mills. This helped test and validate the reliability of responses from the participants of this study.

The Questionnaire and the Measurement

Many of the questions in this study were adopted from prior research studies in budgeting (e.g., Hopwood, 1972, 1973; Khandwalla, 1972, 1977; Swieringa and Moncur, 1975; Bruns and Waterhouse, 1975; Otley, 1978; Lyne, 1988). Given the practical issues of research and the environmental context of the jute industry of Bangladesh, as revealed through the pilot study, the questions used in previous research studies were refined and modified for the present study.

The respondents of 38 mills were asked to rate on five-point scales the agreement or disagreement with the issues of the design and the operation of budgeting in their mills. For instance, in the purposes of the budget scale, managers were asked to indicate, on a scale from (1) "strongly disagree" to (5) "strongly agree," the agreement or disagreement for each statement. This helped the respondents answer quickly over a continuous range (Scapens and Sale, 1985; Lyne, 1988), and also made it easier to interpret the ratings (Khandwalla, 1972).

Statistical Tests

Some descriptive statistics (e.g., means and standard deviations) were calculated for each variable. These give idea of generality of responses. Besides, a ranking was made based on the mean score of responses to a question. The highest mean score was given the highest rank (Lyne, 1988).

The "distribution-free" or "nonparametric" tests (Siegel and Castellen, 1988) were employed in the statistical analysis because the test of normality of the data indicates that the distribution of the variables is not normal.

The Kendall's coefficient of concordance (*W*) was computed for all the rankings of means to given an idea of the relation among several rankings of individuals. Here, the null hypothesis (H_0) that the rankings were unrelated may be rejected at a significance level of 1%.

The Wilcoxon matched-pairs signed-ranks test was computed to show the directions and the relevant magnitudes of the differences within pairs (e.g., actual v. desired purposes of the budget). Most statistical tools employed in this study could be found in the work of Lyne (1988).

Results and Analysis

Budgetary Participation

Perceived Participation

Table 2 shows the degree of participation from different levels of management in the budget process of the mills. We see from Table 2 that 89 percent of respondents in the survey ranked HO management as having the greatest level of influence over the budget setting for a mill. Mill management was ranked as having the least influence by 86 percent of respondents. Fourteen percent of respondents perceived some influence over their budgets by the zonal management.

Kendall's coefficient of concordance (*W*) expresses the degree of agreement in ranking among the respondents. Here, it was hypothesized that managers' rankings of influences in the budget settings were unrelated (or independent).

The output in Table 2 ($n = 56$; $W = .9545$; $\chi^2 = 106.909$; df = 2; $p = 0.000$) shows an observed significance level of 0.0000. Since this is small it can be concluded with considerable confidence that the agreement among the 56 managers concerning the level of participation in the budget process was high. Thus, the very low probability under H_0 associated with the observed value of *W* enables us to reject the null hypothesis that the respondents' ratings were unrelated to each other. This indicates

Table 2. Perceived level of participation on the setting of budget targets

	Actual amount of influence on the budget setting				
Management level	A very great deal	A great deal	Quite a bit	Some	Little or none
HO staff	89%	1%	0%	1%	9%
Zonal staff	0%	0%	0%	14%	86%
Mill staff	0%	0%	0%	14%	86%

Nonparametric (NPAR) Tests, Kendall: $n = 56$; $W = 0.9545$; $\chi^2 = 106.909$; df = 2; $p = 0.0000$

1–5 scale: 5 = a very great deal; 4 = a great deal; 3 = quite a bit; 2 = some; 1 = little or none.

that there was a good consensus among the mill managers concerning the degree of influence of the top management of BJMC in the budgets of their mills. This supports the views of HO staff and the managers of Adamjee, Bawa and Latif Bawany jute mills that the HO management had greater influence over the budget setting of the mills; the mill management had the least influence.

Desired Participation

The responses from the mill managers (see Table 3) to the question of how much influence the managers think each level of management ought to have when a mill's budget is being prepared reveal an opposite picture from those depicted in Table 2.

The results in Table 3 show that 82 percent of respondents desired a greater participation in setting budget targets for their mills. Thirteen percent desired some influence over the budget process of the mills by the HO management. The results also show that 23 percent of the respondents desired some influence by the zonal management in the budget setting of the mills.

Table 3 shows the results of the Kendall's coefficient of concordance ($W = 0.7958$; $\chi^2 = 89.131$; df = 2; $p = 0.0000$). Since the observed significance level associated with the test is small ($p = 0.0000$), the hypothesis of disagreement among the mill managers concerning the desired participation in the setting of the budget was rejected.

A comparison of the actual and the desired level of influence on the budget setting process (see mean scores in Table 4) shows that mill managers were highly dissatisfied with the level of participation from mill level in the budget process. The majority of respondents wanted greater involvement of the mill management in the budget process.

The Wilcoxon matched-pairs signed-ranks test was computed to test the null hypothesis (Ho) that the actual and the desired influence in the setting of the budget did not differ. The Wilcoxon test was selected because the data were difference scores from two related samples, ranked by the same managers (Lyne, 1988). The results are shown in Table 4.

Table 4 shows significant differences between managers' views concerning the actual and the desired level of participation in the budget process. The small observed significance level (see Table 4) led to rejection of the null hypothesis of no difference. Therefore, it is concluded that the desired influence (more involvement of the mill management) was significantly greater than the actual influence in the budget process at mill level.

Table 3. Desired amounts of influence on budget setting

Level of management	A very great deal	A great deal deal	Quite a bit a bit	Some	Little or none
HO staff	0%	0	0	13	87
Zonal staff	0%	0%	0	23	77
Mill Staff	52%	30%	0	18	0

NPAR Tests, Kendall: $n = 56$; $W = 0.7958$; $\chi^2 = 89.131$; df = 2; $p = 0.000$

1–5 scale: 5 = a very great deal; 4 = a great deal; 3 = quite a bit; 2 = some; 1 = little or none.

Table 4. Results of Wilcoxon matched-pairs signed-ranks test with mean scores and S.D. concerning actual versus desired level of influence in the setting of the mill budget ($n = 56$)

	Actual		Desired		Wilcoxon test	
	Mean	S.D.	Mean	S.D.	Z value	p
HO	4.8929	0.3121	1.2679	0.4469	−6.5094	0.0000
ZO	1.1429	0.3531	1.6607	0.8152	−3.6758	0.0002
MO	1.2679	0.4469	4.1607	1.108	−6.5094	0.0000

1–5 scale:5 = a very great deal; 4 = a great deal; 3 = quite a bit; 2 = some; and 1 = little or none.
HO = head office; ZO = zonal office; MO = mill office.

The Purposes/Uses of the Budget

Respondents were asked two questions in order to measure the actual and the desired purposes of the budget in the mills. Managers were asked to indicate, on a scale (1) "not important" to (5) "very important," how important each purpose was and what the purpose should be. The questions asked were: complying with government requirements (P1); formation of the HO budget (P2); forecasting future plans (P3)); controlling operations (P4); communicating information (P5); performance evaluation (P6); achieving targets (P7); maximizing profits (P8); and, motivating people (P9). The results are discussed next.

Actual Purposes/Uses of the Budget

The perceptions of the mill managers towards the actual uses of the budget can be ranked as follows:

93% respondents ranked P2 as very important.
80% respondents ranked P1 as very important.
75% respondents ranked P7 as very important.
71% respondents ranked P3 as very important.
20% respondents ranked P4 as very important.
7% respondents ranked P9 as very important.
4% respondents ranked P6 as very important.
3% respondents ranked P8 as very important.
11% respondents ranked P5 as quite important.

The above evidence confirms that the budgets at mill level primarily served the mills to comply with the government and the HO requirements. The respondents perceived motivational, communication, and managerial uses of the budget as insignificant at their mills. This suggests that budgets at mill level performed formal and ritual roles; they played little role in controls (for details see Hoque and Hopper, 1994).

Kendall's coefficient of concordance was performed to test the hypothesis that managers' perceptions about the actual purposes of the budget are independent.

Outputs are given in Table 5. The *W* statistic with a very low probability (0.0000) suggests a rejection of the null hypothesis that the managers' rankings were not related to each other. Thus, it can be concluded that there was a good agreement among the managers concerning the perceived uses of the budget at mill level. This is consistent with the perceptions of managers interviewed at other mills of BJMC that the budget played little role in controls. Almost all mill managers said that they made budgets to comply with the HO orders. No detailed analysis of variances was being done in the mill (Hoque and Hopper, 1994).

Desired Purposes/Uses of the Budget

From replies to the questions on the desired uses of the budget (see Table 6) it appears that the majority of individuals at mill level wanted to see the budget as a dominant mode of control in their mills.

The following highest ranks are evident in Table 6 concerning the desired uses of the budget:

Control (P04) was ranked as most important by 77% individuals.
Forecast (P03) was ranked as most important by 69% individuals.
Motivation (P09) was ranked as most important by 68% individuals.
Communication (P05) was ranked as most important by 68% individuals.

This suggests the mill managers emphasized the greater uses of the budget in day-to-day management and control in the mills. The agreement among 56 managers in their judgement is expressed by $W = 0.2522$. Since the test of significance

Table 5. Perceived purposes of the budget

Variable number and name		(5)	(4)	(3)	(2)	(1)
P1	To comply with government directives and HO orders	80%	0%	5%	4%	11%
P2	To help in making HO budget	93%	0%	4%	0%	3%
P3	To forecast future activities	71%	11%	9%	0%	9%
P4	To help in management control	20%	14%	4%	7%	55%
P5	To provide a means of communication throughout the mill	0%	11%	0%	11%	79%
P6	To evaluate mills' performances	4%	0%	0%	7%	89%
P7	To achieve production targets	75%	7%	7%	0%	11%
P8	To maximize profits	3%	4%	9%	4%	80%
P9	To motivate people	7%	11%	13%	7%	62%

NPAR tests Kendall
$n = 56$; $W = 0.5991$; $\chi^2 = 268.3785$; df = 8; $p = 0.0000$

1–5 scale: 5 = very important; 4 = quite important; 3 = of some importance; 2 = of little importance; 1 = of no importance.

Table 6. Desired purposes of the budget

		(5)	(4)	(3)	(2)	(1)
P01	To comply with government directive and HO orders	18%	14%	16%	0%	52%
PO2	To help in making HO budget	39%	18%	4%	0%	39%
PO3	To forecast future activities	69%	11%	9%	0%	11%
PO4	To help in management control	77%	5%	0%	5%	13%
PO5	To provide a means of communciation throughout the mill	68%	13%	5%	0%	14%
PO6	To evaluate mills' performances	57%	12%	11%	0%	20%
PO7	To achieve the production targets	46%	20%	0%	25%	9%
PO8	To maximize profits	7%	4%	9%	7%	73%
PO9	To motivate people	68%	14%	9%	0%	9%

NPAR tests Kendall
$n = 56$; $W = 0.2522$; $\chi^2 = 112.9810$; df = 8; $p = 0.0000$

1–5 scale: 5 = very important; 4 = quite important; 3 = of some importance; 2 = of little importance; 1 = of no importance.

($\chi^2 = 112.9810$) of the value of W is small (0.0000) the hypothesis of nonagreement was rejected. It is therefore concluded that the degree of association among the managers' rankings is highly significant.

A clear difference in the perceived and the desired role of the budget at mill level is presented in Table 7. This is explained in detail using the mean scores of responses and Wilcoxon matched-pairs signed-ranks test.

The Wilcoxon matched-pairs results show the magnitudes of the differences between the actual and the desired uses of the budget. The null hypothesis was that there was no significant difference between the actual and the desired uses of the budget.

Table 7 shows that the mean scores of the desired uses are lower than the actual uses, for purposes such as P1, P2, P3, and P7. This suggests that the majority of mill managers considered these purposes should not be more important. On the other hand, for purposes such as P4, P5, P6, and P9, the desired scores are greater than the actual scores. The significant values of Wilcoxon matched-pairs signed-ranks test at a level of significance $p < 0.001$ and $p < 0.05$ for all variables except "forecast" and "profit" purposes confirm rejection of the null hypothesis that there was no difference between the actual and the desired uses of the budget in the mills. This suggests most respondents viewed that the budget should play a significant role in day-to-day management and control in the mills.

The Wilcoxon matched-pairs results show insignificant differences between the actual and the desired purposes, such as "forecast" and "profit" (0.7751 and 0.3341 respectively). This means all managers perceived "forecasting future activities" as an important purpose of the existing budget systems and this purpose should be important. On the other hand, the majority of respondents (45 out of 56) ranked the "profit maximization" objective as least important in the budget systems. This is

Table 7. Results of Wilcoxon matched-pairs signed ranks test for actual versus desired purposes/uses of the budget at mill level (n=56 for each varaible)

Variables	Mean score		Wilcoxon tests	
	Actual	Desired	*z* value	*p*
P1 vs. PO1 (Government/HO orders)	4.357	2.464	−4.8256	0.0000
P2 vs. P02 (HO budgets)	4.786	3.179	−4.5452	0.0000
P3 vs.P03 (forecast)	4.357	4.304	−2.8571	0.7751
P4 vs. P04 (control device)	2.357	4.286	−4.8536	0.0000
P5 vs. P05 (communication)	1.429	4.196	−5.9186	0.0000
P6 vs. P06 (performance evaluation)	1.214	3.875	−5.6351	0.0000
P7 vs. P07 (attain targets)	4.357	3.696	−2.4569	0.0140
P08 vs. P08 (maximizing profit)	1.464	1.643	−0.9658	0.3341
P9 vs. P09 (motivation)	1.929	4.321	−5.4411	0.0000

1–5 scale: 5 = very important; 4 = quite important; 3 = of some importance and, 2 = of little importance, 1 = of no importance.

reflected in the results depicted in Table 7 ($W = 0.9658$ at $p = 0.3341$). Interviews with managers of Adamjee, Bawa, and Latif Bawany Jute Mills revealed similar perceptions with respect to the desired uses of the budget.

Managerial Satisfaction

Individuals were asked to indicate their level of satisfaction with respect to a variety of characteristics of the budget, on a scale from (1) "very unsatisfied" to (5) "very satisfied". Seven questions were asked to measure the perceived level of satisfactions (see Table 8). The descriptive statistics depicted in Table 8 give an idea of the pattern and generality of responses.

The results given in Table 8 show that the majority of the mill managers were highly dissatisfied with the various aspects of the budget in their mills. The low scores suggest greater dissatisfaction and the highest scores represent greater satisfaction of managers with respect to the characteristics of the budget of the mills.

The evidence in this study shows that 38 of 56 individuals said the HO did not issue timely budget guidelines to the mills. They (HO) took a long time to approve the budget. Of 56 respondents 36 replied that they received little or no help and assistance from the HO in budget difficulties/overruns. Twenty individuals answered that they received some assistance in this respect. Eighty percent of the respondents expressed their high dissatisfaction with the flexibility permitted by the budget.

Table 8. Descriptive statistics about the budget-related satisfaction in the jute mills of BJMC.

	Satisfaction factors	Descriptive statistics	
		Mean	S.D.
BC1	Satisfaction with timing aspects of the budget	1.7857	1.3845
BC10	Satisfaction with HO assistance in case of busget-related problems	1.3571	0.4835
BC12	Satisfaction with the usefulness of the budget systems in the mill	2.1964	0.4009
BC13	Satisfaction with flexibility permitted by the budget	2.0536	0.5853
BM1	Satisfaction with motivational aspects of the budget	1.3036	0.4640
BP4	Satisfactions with budget participation	1.2321	0.5718
IAS5	Satisfaction with the reliability of accounting information	2.8929	0.4640

NPAR Tests, Kendell
$n = 56$; $W = 0.4270$; $\chi^2 = 143.4614$; df = 6; $p = 0.0000$

1–5 scale: 5 = very much satisfied; 4 = satisfied; 3 = not so satisfied; 2 = unsatisfied; and, 1 = very unsatisfied.

Fifty percent of the respondents said information produced under the present budget process was unreliable; 5 percent perceived it as totally unreliable; 13% viewed it as reliable to some extent; 14% said it was reliable; and 18% said that the information was totally reliable.

The results presented in Table 8 show that many respondents (55%) perceived the budgetary information produced by the mills to be unreliable. Interviews with Adamjee managers revealed the same picture. Most Adamjee managers viewed that due to insufficient time they sometimes guessed to make the budgets timely (for details, see Hoque and Hopper, 1994). Of 56 respondents 45 expressed high dissatisfaction concerning the usefulness of the present budgeting process for management and controls in the mills. As also stated previously, 47 of 56 individuals were highly dissatisfied with the level of participation in the setting of the budget process. Almost all mill managers perceived a high dissatisfaction with the motivational aspects of the budget at the mill level. Of 56 respondents 39 strongly disagreed that achievement of the budget target was recognized; the remaining 17 individuals disagreed that the budget achievement was recognized by the HO.

Kendall's coefficient of concordance, *W*, was computed to test the null hypothesis that there was no difference of opinion among the managers as to satisfaction factors related to the budgets in the mills (see Table 8). The significant value of *W* (p = 0.0000) suggests consensus among the mill managers concerning the satisfaction with various aspects of the budget process at mill level. This perhaps enables us to reject the null hypothesis that managers' ratings concerning the factors associated with budget satisfaction were unrelated to each other.

Conclusions and Implications

The following major conclusions can be drawn from the findings presented in this paper. The data showed that managers in the mills perceived little participation from the mill management in the budget making of the mill; the head office management appeared to have a greater influence in this respect. Mill managers seemed highly dissatisfied with this state of affairs; they wanted greater participation in the budget process of the mills. The budget of the mill was most commonly viewed as a process developed to comply with HO and state requirements. A sizeable majority saw the budget as a formal forecast of future activities of the mill. The mill managers saw budgets as less useful in day-to-day management and control in the mills. The statistical results show a significant difference between the perceived and the desired role of the budget at mill level. The mill managers appeared to be highly dissatisfied with the various aspects of the budget, such as timing, flexibility, participation, motivation, adequacy and reliability of information, and usefulness of the present budgeting systems.

This study reinforces the conclusions of other research in budgeting claiming that individuals' behavior and attitudes towards the formal systems of budgeting and the organizational and external institutional aspects govern the ways accounting and budgeting operate in the organization (Burchell *et al.*, 1980; Covaleski et al., 1985; Hopper *et al.*, 1987; Ansari and Euske, 1987; Hoque and Hopper, 1994).

The major limitation of this paper is its lack of a detailed analysis of the associations between the variables using sophisticated statistical tools. However, since this was not the central focus of this paper, it was hoped that it could be done sometime in the future. This paper reported the findings based on evidence from the nationalized jute mills. A further study can be undertaken to investigate how budgets function and influence managers' behavior in private sector jute mills.

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Notes

1. Unless otherwise stated, in this paper the terms "mill," "unit," "firm," and "enterprise" have been used synonymously to refer to the same level of organization of Bangladesh Jute Mills Corporation (BJMC), where the manufacturing of a variety of jute products, such as hessian and sacking cloth, carpet, carpet backing cloth, twine, and spindles occurs.
2. Following the independence of Banglesh, all industries including jute were nationalized. In 1972 the government established the Bangladesh Jute industries Corporation (subsequently renamed Bangladesh Jute Mills Corporation – BJMC) to manage the nationalized jute industry. Consistent with the government economic policy, between 1978 and 1986 43 jute mills were privatized, leaving 38 jute mills under the state ownership of BJMC (Government of Bangladesh, 1985).
3. A copy of the questionnaire is available from the author on request.
4. A pilot study was conducted to formulate ideas of the main research and identify the research site in this respect.

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The Market for Audit Services in South Africa

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Key words: Audit fees; South Africa; International auditing; Mining

Abstract: *Many studies have been conducted on the market for audit services in the United States, United Kingdom, and Australia, but to date very few have focused on other countries. This paper studies the audit services market in South Africa. The findings indicate broad similarities in the market for audit services in South Africa and countries previously studied. In addition to extending the results of prior studies to a country and continent not previously examined, this study makes two additional contributions: (1) an examination of the effects on audit fees of generalized industry experience; (2) an analysis of whether the large audit firm fee premium is a general phenomenon or is attributable to specific audit firms. The results suggest that generalized industry expertise may reduce audit fees and also indicate that the large audit firm fee premium documented in many countries may be attributable to only a few large accounting firms.*

This paper extends prior research into the market for audit services by providing a study of the market for audit services in South Africa, a country (and continent) not previously studied. Understanding the similarities and differences between the market for audit services in South Africa and other nations should increase our knowledge of the increasingly interdependent world economy as it relates to accounting. It will also increase our knowledge of the economics of auditing. The similarity of audit fee determinants between South Africa and other countries is analyzed and the extent to which the large audit firm fee premium documented in other countries exists in South Africa is examined. This will extend our knowledge of accounting in South Africa and allow assessment of the similarities and differences in the market for audit services in South Africa and other countries.

In addition, this study extends previous work in the area in two ways. First, the unique nature of the South African economy, which has a large number of firms in the mining industry, allows for a powerful test of the effect of industry specialization

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on auditing. Second, the data allow exploration of a topic that has only recently begun to be analyzed: the existence of a differential fee structure, not just between groups of auditors but among different auditors within the class of large auditors.

The remainder of this paper proceeds as follows. In the next section the results of previous research on the market for audit services in other countries is briefly reviewed. This is followed by a discussion of the institutional background of accounting and auditing in South Africa. The next section describes the data and the empirical tests. Then the empirical results are presented. The results are discussed and summarized in the final section of the paper.

Previous Research

Beginning with the seminal work of Simunic (1980), a number of studies have analyzed the market for audit services in several countries. The majority of these studies have focused on a few countries: the United States, the United Kingdom, and Australia. To date only limited attention has been given to the market for audit services in other countries. The major results of earlier studies have served to establish the responsiveness of audit fees to variables related to auditee size, audit risk, and audit complexity. In general, these papers have found that these variables explain a large proportion of audit fees.

An additional question which has often been addressed in prior studies is whether some auditors receive premium fees due to their "brand name" or reputation for providing high-quality audits. Usually these studies have explored whether there is an audit fee premium paid to "Tier I" auditors, with the term Tier I usually defined as consisting of the very largest international accounting firms. Typically this group of firms has been viewed as being comprised of the so-called "Big Eight" (now the "Big Six") international firms. The importance of finding a Tier I audit fee premium is that it provides evidence of product differentiation in the market for audit services. That is, firms which have invested in reputation capital (e.g., employee training programs, firm publications, and advertising) may be able to obtain a return on this investment through higher prices for their services. To date a Tier I fee premium has been documented in the United States (Palmrose, 1986; Francis and Simon, 1987; Simon and Francis, 1988; Turpen, 1990), the United Kingdom (Taffler and Ramalinggam, 1982; Chen *et al.*, 1993; Brinn *et al.*, 1994), Australia (Francis, 1984; Francis and Stokes, 1986), India (Simon *et al.*, 1986), Hong Kong, and Singapore (Simon *et al.*, 1992). Studies of New Zealand (Firth, 1985) and Malaysia (Simon *et al.*, 1992) did not provide evidence of a Tier I audit fee premium. Studies of the Canadian audit services market have been mixed: Anderson and Zéghal (1994) found a Tier I fee premium while Chung and Lindsay (1988) did not. Thus, it is possible that the market for audit services may differ significantly across countries, with a general Tier I audit fee premium characterizing only certain countries. That is, the inconclusive results of previous studies suggest that the degree of auditor product differentiation may vary significantly across countries.

Recent studies in this stream of research have investigated two additional questions: the effects of industry specialization on audit fees and the question of whether there

are fee premia to *individual* firms within the overall class of Tier I firms. Craswell, *et al.* (1994) found evidence of an audit fee premium paid to auditors who were industry specialists in Australia. Anderson and Zéghal (1994) found that in addition to the large audit fee premium found in previous studies, certain large auditors within this group received premium fees. Similar results were found by Balachandran and Simon (1993). The results of these studies suggest that product differentiation in the audit services market may be due more to a brand-name phenomenon or to industry specialization than to the auditor-size hypothesis suggested by DeAngelo (1981). The current paper will use data from South Africa to provide additional evidence on these recently investigated questions as well as to assess how the results of previous studies apply to South Africa.

Institutional Background

The accounting and auditing environment in South Africa is broadly similar to that in other developed countries, especially current and former members of the British Commonwealth. For example, one well-known taxonomy (Nair and Frank, 1980) classified South Africa as best described by the "British Commonwealth Model," based on accounting measurement and disclosure practices. This conclusion was similar to that reached in an earlier study by DaCosta *et al.* (1977). A similar result was suggested for a classification scheme which hypothesized that the legal system of a country is a good predictor of its accounting orientation (Salter and Doupnik, 1992). Similarly, a study based on the content of the auditors' report (Hussein *et al*, 1986), classified South Africa as a member of what was termed the ''UK group" A study of financial disclosure regulation (Cooke and Wallace, 1990) suggests that South Africa, as the United States, the United Kingdom, and several other countries, can be described as "highly regulated" or "regulated" as opposed to "moderately regulated" or "unregulated."

In terms of the importance of the largest international accounting firms, South Africa is also similar to large, developed industrial countries. All of the Big Six international firms have a considerable presence in the country. In 1991, each of these firms had multiple offices in South Africa, ranging from a low of five for Arthur Andersen, to a high of 26 for Coopers (CIFAR, 1993, Vol. 2, pp. 93, 166). With the exception of Arthur Andersen, each of the Big Six firms had more than one hundred partners in South Africa. The market share of the Big Six measured by client size was in excess of 75 percent of the market for audits of publicly traded clients.

Thus, in terms of its general accounting policy orientation and the importance of the largest international firms, South Africa is quite similar to many of the other countries examined in prior studies of the market for audit services. This similarity suggests that many of the determinants of audit fees in South Africa will be similar to those of countries previously studied. An important difference, however, between the South African economy and the economies of other countries is the predominance of the mining industry. This may have implications for the structure of audit fees which will be one of the issues investigated in this paper.

Data and Methodology

Data were collected from the 1991 annual reports of a sample of South African industrial and commercial firms listed in Moody's International Manual or in International Accounting and Auditing Trends (CIFAR, 1993).[1] Since audit fees are required disclosure in financial statements in South Africa, it was not necessary to obtain audit fee data by means of questionnaires as has been necessary in studies of audit fee determinants in the United States. This is important because it facilitates data collection, ensures greater data accuracy, and eliminates potential problems caused by non-response bias that may exist when data collection depends on responses to surveys.

The basic research approach relies upon a regression model of audit fees similar to those used in most prior studies of audit fees. Typically, as in this paper, audit fee has been placed as a dependent variable to be explained by various characteristics of the client. Among the client characteristics found most important in previous studies have been size and variables related to the complexity of the audit, such as the number of subsidiary firms and the relative proportion of assets that require more auditor effort to verify (e.g., inventory and receivables). These models have consistently been found to explain a considerable proportion of audit fees in studies of Canada, the United States, the United Kingdom, Australia, New Zealand, Hong Kong, Malaysia, Singapore, and India. This basic regression model will therefore serve as a useful benchmark for assessing the similarities and differences in the audit services market in these countries as compared to South Africa. The basic regression model is of the following form:

$$\text{AUDITFEE} = b_1 + b_2\,\text{ASSETS} + b_3\,\text{SUBSIDIARIES} + b_4\,\text{INVREC} + b_3\,\text{BIG6}$$

where

AUDITFEE	=	audit fee paid to the independent auditor
ASSETS	=	total assets of the client
SUBSIDIARIES	=	the number of consolidated subsidiaries
INVREC	=	the proportion of total assets represented by inventories and receivables
BIG6	=	a variable which has a value of one if the company is audited by a Big Six audit firm

The first explanatory variable (ASSETS) represents the size of the audit client. Auditee size is clearly an important determinant of audit fees since larger clients will require more audit effort.[2] The next two variables (SUBSIDIARIES and INVREC) relate to audit risk and audit complexity. For example, more subsidiaries and a greater proportion of assets which are difficult to audit such as inventory and receivables will require more auditor effort and hence increase fees. Therefore, ASSETS, SUBSIDIARIES, and INVREC should be positively related to audit fees. Prior studies (for a summary, see Simon *et al*, 1992) find that the Big Eight (now the Big Six) auditors receive premium fees in many countries, perhaps due to a perception of higher quality associated with their audits. Therefore, the BIG6 variable is used

to control for the effect of audit firm type on audit fees. This variable assesses the extent, if any, of a large audit firm fee premium as an indication of the degree of product differentiation in South Africa. Based upon research findings for other countries, this variable is expected to be positively related to audit fees. That is, while not all previous studies have found positive evidence of a large audit firm fee premium, no studies to date have found a fee discount on audits performed by large audit firms.

This basic model will allow for assessment of the degree to which the results of previous studies apply to the determination of audit fees in South Africa. In addition to investigating similarities in the market for audit services in South Africa and other countries, two questions which have just begun to be investigated in the literature will be examined in additional regression models: industry specialization effects and specific audit firm effects. The following discussion develops a new industry specialization hypothesis unique to the South African economy, places investigation of specific auditor effects into the context of recent literature, and describes the resulting changes in the regression models.

The Effects of Industry on Audit Fees in the South African Context

In a second version of the regression model, a variable for industry (MINING) is added to the basic model previously described. This variable indicates those clients whose primary business is in the mining industry. This will allow a test for the specialization effects of auditing specific industries. This paper tests a different industry specialization hypothesis than that of Craswell *et al.* (1994). Their paper made use of the observation that in Australia there were different industry specialists in various industries (i.e., some accounting firms were auditors for a significantly higher proportion of an industry than were others), and thus specialists could be expected to earn higher fees. The basic idea is that if only one (or a very few) auditors is specialized in an industry, there may be an ability to earn premium fees as a result of investment in specialized audit expertise not possessed by other auditors. The theory tested in this paper is related to, but different than, this. Specifically, in an economy which has many industries, auditor industry specialization may confer fee benefits *vis-à-vis* non-specialist auditors, while in an economy in which many client firms are in the same industry, industry specialization may actually reduce inter-firm fee differentials. Thus, in South Africa, with a substantial minority (approximately 30%) of firms in the mining industry, it is likely that several audit firms will have developed an expertise in auditing this industry. That is, rather than only a few audit firms having developed specific industry expertise, there will be several auditors with industry expertise. The necessity for many firms to become industry "specialists" would make all of these firms efficient at producing audits of this industry. This would have the effect of making auditing costs lower, ceteris paribus, in that industry. Expressed somewhat differently, the economies due to specialization (see Dopuch and Simunic, 1980; Danos and Eichenseher, 1982) may accrue primarily to clients (rather than to audit firms) if there are many auditors who have developed an industry expertise. The possibility for a general industry effect will be tested for by adding the industry indicator variable (MINING) to the basic audit fee regression model.

Intra-Big Six Audit Fee Differences

Another topic recently investigated in the audit fee literature is the existence of fee premiums for *specific* large accounting firms as opposed to a general fee premium paid to all large audit firms as a group. As noted earlier in this paper, many studies have found evidence of the existence of an audit fee premium accruing to the largest international firms, generally defined as the Big Eight (now the Big Six). However, two recent studies have found that *within* this group of large accounting firms only certain firms appear to receive premium fees. In a study of the Canadian audit services market, Anderson and Zéghal (1994) found that Peat Marwick and Clarkson Gordon (the Canadian affiliate of the Big Eight firm Arthur Young) received premium audit fees. Similarly, in a study of the US market, Balachandran and Simon (1993) found premium fees for Price Waterhouse and Deloitte Haskins & Sells. Interestingly, both studies found that lower than average fees were paid to Touche Ross than to other large international firms.

The results of these studies suggest that in these two countries, at least (Canada and the United States), perceived audit quality as reflected in differing audit fees may differ within the class of large audit firms. It is therefore worthwhile to assess whether this audit fee differential exists in other countries. This paper tests for differential fees within the Big Six in South Africa by dividing the single Big Six variable into six separate variables, one for each of the Big Six firms, and adding these variables to the basic regression model.

Empirical Results

Table 1 presents descriptive statistics for the sample. Considerable differences in the explanatory variables exist, allowing for enough variation to test the hypotheses. The large proportion (29%) of firms in the mining industry allows for testing of the hypothesis of generalized industry expertise. In addition, for four of the Big Six firms, there are at least 10 observations, allowing for a test of the effects of specific large accounting firms on audit fees.

Table 2 presents the results of the basic regression equation, which is similar to those used in studies of other countries. The overall results suggest a good linear fit in which a large proportion of the variation in audit fees is explained. The value of the F statistic is significant at better than the 0.001 level. The value of adjusted R^2 is 0.75, indicating that the model explains approximately three quarters of audit fees. This value of the R^2 statistic is similar in magnitude to those found in studies of other countries.[3]

An examination of the t-statistics for the individual explanatory variables also suggests considerable similarity between the determinants of audit fees in South Africa and countries studied in previous research. The client size variable (ASSETS) is statistically significant at better than the 0.001 level, as are the audit complexity variables, SUBSIDIARIES and INVREC. Thus, the results for the audited size and audit complexity variables indicate that there is considerable similarity in the determinants of audit fees in South Africa and the countries studied in previous

Table 1. Descriptive statistics (n = 144)

Variable	Mean (SD)
Audit fee (thousands of rands)	1341 (2975)
Assets (millions of rands)	1314 (2462)
Subsidiaries	18.2 (23.6)
Proportion of assets in inventory and receivables	0.39 (0.27)
Percentage of firms	
In the Mining Industry	29%
Audited by:	
Arthur Andersen	5%
Coopers & Lybrand	10%
Deloitte & Touche	23%
Ernst & Young	25%
KPMG Peat Marwick	16%
Price Waterhouse	6%
Total Audited by Big Six Firms	85%

Table 2. Regression results for basic model (n = 144)

Variable	Coefficient (t-statistic)
INTERCEPT	0.57 (1.89)*
ASSETS	0.63 (13.90)**
INVREC	1.97 (7.05)**
SUBSIDIARIES	0.30 (5.13)**
BIG6	0.20 (0.93)
Adjusted R^2	0.75
F-statsitic	109.10**

*Significant at the 0.05 level; ** significant at the 0.001 level.

research. The auditor size variable, BIG6, is not statistically significant, suggesting that there is no *general* audit fee premium for Big Six firms *as a group* in South Africa.[4]

Table 3 presents the results of estimating the basic regression model after including the variable for generalized industry specialization, MINING. The MINING variable is negative and statistically significant at better than the .001 level, indicating that mining firms were charged considerably lower audit fees. The size of the coefficient on this variable indicates that, on average, mining firms paid about 50 percent less in audit fees than comparable firms in other industries.[5] This offers support for the hypothesis developed earlier in this paper that, if several audit firms have developed

Table. 3. Regression results for model with mining industry variable (n=144)

Variable	Coefficient (t-statistic)
INTERCEPT	1.11
	(3.41)**
ASSETS	0.65
	(14.81)**
INVREC	1.36
	(4.27)**
SUBSIDIARIES	0.19
	(3.02)*
BIG6	0.25
	(1.23)
MINING	–0.78
	(–3.59)**
Adjusted R^2	0.77
F-statistic	98.08**

*Significant at the 0.01 level; **significant at the 0.001 level.

audit specialization in a single industry, the resulting economies of scale may accrue primarily to clients, leading to a reduction in audit fees.

Table 4 presents the results of the regression model when separate variables for each Big Six firm are substituted for the single Big Six variable. The results are interesting in that while there was no general Big Six fee premium (see Table 2), there is a strong fee premium for *two* of the six largest accounting firms. The variables for both Deloitte & Touche and Ernst & Young are positive and statistically significant at the 0.05 level, indicating that these two firms receive premium audit fees relative

Table 4. Regression results for model with individual big six variable (n=144)

Variable	Coefficient (t-statistic)
INTERCEPT	1.11
	(3.39)***
ASSETS	0.64
	(14.23)***
INVREC	1.33
	(4.14)***
SUBSIDIARIES	0.21
	(3.23)**
MINING	–0.79
	(–3.56)***
ARTHUR ANDERSEN	0.23
	(0.66)
COOPERS AND LYBRAND	0.14
	(0.49)
DELOITTE AND TOUCHE	0.43
	(1.79)*
ERNST AND YOUNG	0.38
	(1.65)*
PEAT MARWICK	0.12
	(0.43)
PRICE WATERHOUSE	0.14
	(0.43)
Adjusted R^2	0.77
F-statistic	50.01***

*Significant at the 0.05 level; **significant at the 0.01 level; ***significant at the 0.001 level.

to other auditors. All of the other Big Six firm variables are statistically insignificant, indicating that these four large firms are paid fees no greater than their non-Big Six competitors. Thus it appears that only two of the six largest accounting firms in South Africa command a fee premium.

Summary and Conclusions

The results demonstrate that the audited size and audit complexity variables found to be important in studies of other countries are also important in explaining audit fees in the South African context. However, the results also indicate that there are important differences between the audit fee market in South Africa and other countries previously studied. First, unlike most of the nine countries previously studied, there is no generalized fee premium accruing to *all* large accounting firms as a group. This is a result different from most of the countries previously studied. Second, the results indicate that an issue not investigated in previous studies may affect audit fees: in this study a variable representing generalized industry expertise in the mining industry was found to be negatively related to audit fees. This suggests that if many audit firms in a country have developed industry expertise, the efficiency benefits of this expertise will accrue primarily to clients (via lower audit fees) rather than to their auditors. This is in contrast to the results of prior studies in which only one or two firms were industry specialists. Finally, the results indicate that, while there is no generalized fee premium paid to large audit firms as a group, a minority of these large firms may earn fee premiums. This suggests that product differentiation in the audit market may be related to the reputation of specific accounting firms rather than to the reputation of the entire class of large accounting firms.

Notes

1. The sample was restricted to non-financial firms because previous research (e.g., Simunic, 1980) indicates a different fee structure in the financial services industry.
2. Logarithmic transformations of audit fees and client assets are employed because previous research (e.g. Francis and Simon, 1987) indicates that this specification provides a good linear fit in which the assumptions of ordinary least squares regression are satisfied.
3. Values of R^2 for studies of audit fees are typically in the range of 0.60–0.70. The highest values of R^2 in the nine other categories previously studies were 0.83 for India (Simon *et al.*, 1986) and 0.83 for Singapore (Simon *et al.*, 1992).
4. Ten of the observations in this study involved "joint" audits in which more than on audit firm signed the audit report. In the results presented in Tables 1–4, these audits were classified as having been conducted by the primary auditor whose signature appeared first showing the audit report. Eliminating these joint audits left the results essentially unchanged.
5. For a description of how to convert the regression coefficient into a percentage fee effect, see Simon and Francis (1988), footnote 7.

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Book Reviews

Accounting Certification, Educational and Reciprocity Requirements: An International Guide *by Jack R. Fay. Quorum Books, Westport CT, 1992, 301pp, $65.00.*

After two major surveys and an extensive analysis of materials collected from business and governmental agencies, Jack Fay has effectively organized significant international professional accounting information in this book. The book is intended to serve as a reference for "multinational industrial and service organizations, accounting firms, universities with international business curriculums, and individuals desiring such information". It appears that Fay had in mind both students interested in international accounting requirements and other individuals considering international careers. In addressing these purposes, Fay has developed a presentation structure which divides the world into four parts: the Americans, the Asia/Pacific Basin, Europe, and Africa/ Middle and Near East. The surveys were made in 1987 and 1991 and the book was published in 1992, with the promise that updates and revisions would follow.

After an opening chapter which concerns the new economic and political order that he sees emerging, Fay addresses the need for the reciprocity for professional accountants in Chapter 2. He says that "countries have been very disinclined to initiate or to expand a policy on reciprocity". The United States, in particular, has shown little or no leadership in this area: "While U.S. accountants are debating reciprocity between states, our European counterparts are legislating reciprocity among nations". Using both tabular details and narrative summary, Fay presents the reciprocity policies for 17 countries in the Americas. In the section on Asia/Pacific Basin, 10 countries are presented. The section on Europe includes 18 countries, and eight countries are included in the analysis of the Africa/Middle and Near East region. For a significant number of these countries, no reciprocity is available.

Chapter 3 focuses on certification requirements. Four tables, covering the four sections of the world, include the different professional accountant classifications and the experience requirements necessary to achieve certifications in each classification. The narrative in the chapter includes education and personal requirements and examinations. It is apparent that most countries have addressed these issues by providing several classifications for accountants. Some countries are still in the process of developing requirements.

Activities and responsibilities of professional accountants are presented in Chapter 4. In this chapter, the information is presented in narrative form only; apparently, variations among countries made it impossible to present tabular summaries. This reader is struck by both the similarities and the differences among the activities and responsibilities observed in different countries. For example, "Australian companies are required to keep certain statutory records on shareholders", and others. "Such information is accessible to the general public upon payment of an appropriate fee." Similar information is required in the United States, and is available without charge.

In Chapter 5 continuous education requirements are presented. This chapter is shorter than the earlier chapters even though Fay presents the requirements of the United States in some detail. The brevity of the chapter results from the similarities among those countries which have requirements and the number of countries which do not have continuing education requirements.

Accounting organizations and journals are presented in Chapter 6. Little narrative is included in this chapter. A 20-page table includes, for each country, the professional standard setting bodies and the journals or periodicals. In each section of the world there are several countries which have no journals or periodicals, but all countries included in the report have at least one professional accounting organization or standard-setting body. The chapter should prove particularly useful to individuals seeking additional information of a particular country.

Chapter 7, which concerns ethics, consists entirely of narrative summaries for each country. Apparently, the similarities among countries were not sufficient to warrant tabular presentations. Nearly half of the chapter is devoted to the United States, and the chapter stresses that codes of ethics are still evolving in other countries. The Republic of Panama, for example, did not adopt its first Code of Ethics for Government Employees until 1991. It is the first of its kind in Latin America. Fay concludes that "Ethical standards for professional accountants in most countries were either nonexistent or rather loosely enforced for many years." He then explains: "accountants have always been regarded with high esteem for their integrity, and thus stringent ethical standards have generally not been necessary in the past."

In Chapter 8, Fay briefly returns to the significant changes taking place in world markets, particularly in Europe and the former Soviet Union. He concludes this chapter with a request for readers to share information and additional comments with him.

The usefulness of the book is significantly enhanced by Appendix A, which includes the addresses and telephone numbers for the professional accounting organizations and standard-setting bodies presented in Chapter 6. The survey letters and questionnaires are included in Appendix B. Appendix C identifies the contact persons from whom information was received for the various countries.

The author has succeeded in converting a mass of data into a useful reference manual. While the material is somewhat dated, it does not appear to be out of date. For most uses, this book will prove to be a good starting point for further research.

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European Accounting *by John Blake and Oriol Amat. Pitman Publishing, London, 1993, 229 pp.*

European Accounting provides a good introduction to accounting as practised in each of the countries in the European Union (EU) and Sweden. The book also provides several chapters that discuss important issues in international accounting which give context and additional insight into accounting as practised in the EU. The book is an excellent resource which provides extensive references on all of the topics it examines. While the introductory chapters are written in more of a scholarly style, the chapters describing EU accounting are quite readable and practitioners and students alike should find them easy to understand. The introductory chapters also relate EU accounting to accounting in the United States and many Pacific Rim countries.

Chapter 1 describes "Variations in International Accounting". After introducing a number of the differences in accounting around the world, the chapter discusses the issues surrounding the harmonization of international accounting. Then the chapter discusses the various factors that help to shape a country's accounting system: theorists and professional bodies, economic consequences, economic environment, taxation, nationalism, users and objectives, legal context, sources of finance, language, other country influences, and scandal or crisis. Next the chapter examines the various classification systems which group countries according to the similarities and differences in their accounting systems.

Chapter 2, "National and International Sources of Authority", has three main focuses. First, it describes different sources of authority for accounting regulations, including legislation, governmental bodies, professional and private sector bodies, and industry-specific initiatives. The chapter then compares the approaches that different countries use before presenting a classification system for national modes of regulation. The second major part focuses on the goals and work of the main international sources of authority, including the International Accounting Standards Committee (IASC), the UN, the OECD and the EU. Finally, the chapter discusses the different audit roles, issues when auditing multinational corporations, the large international public accounting firms, and the accounting profession.

Chapter 3 provides "An Overview of Areas of Difference in International Accounting Practice". The chapter presents a series of key accounting topics and describes the different commonly used accounting practices as well as the standards advocated by the IASC and EU. The topics include: accounting conventions, presentation, consolidated accounts, goodwill, foreign currency translation, inflation, tangible fixed assets, research and development, stock and work in progress, leases, deferred taxation, pension plans, and post-balance sheet events. Under accounting conventions, the chapter presents four different interpretations of "true and fair" to illustrate the difficulty applying the term with consistency both domestically and internationally.

Chapters 4 through 16 are the core of the book and provide a country-by-country discussion of accounting in each of the EU countries (Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom) as well as Sweden, which may join the EU. Each chapter

begins with an introduction to that country's accounting regulations, accounting profession, and view of auditing. The introductions are wonderful, brief overviews outlining the historical development of key accounting standards and legislation, the development and current status of the accounting profession, and the qualifications and basic requirements for auditing.

Each chapter then examines the same key accounting topics in the same order as outlined in Chapter 3. This parallel structure as it examines each country makes it easy to follow, facilitates comparisons between countries, and allows the book to be used as a quick reference. Each country chapter averages 10 or 12 pages, though the range is from 5 to 15 pages.

Chapter 17 is a short six-page introduction to accounting in Eastern Europe. It provides some historical background concerning accounting practices and the accounting profession in Eastern Europe and the former Soviet Union. The chapter also discusses some of the accounting problems associated with joint ventures. The chapter does not survey the current state of accounting in Eastern Europe.

Chapter 18 is a brief introduction to "International Analysis of Accounts". The chapter quickly mentions and illustrates many of the problems that occur when attempting to do financial analysis on companies from different countries that not only use different accounting principles, but also exist in different environments. The purpose of the chapter appears to be raising important considerations when about to proceed with financial analysis rather than providing details on how to overcome these difficulties.

The authors believe that the book should be suitable for undergraduate students of business as well as MBA students. Although the book is too narrow as the sole text in an international accounting or international business course, it could be used for modules that examine European accounting. While the authors themselves discuss the fact that different countries use different terminology in accounting (p. 225), this same fact may cause some problems for US students. The authors often use UK terminology, so their use of stock (inventory), turnover (sales), debtors (receivables), creditors (payables), gearing (leverage) and other terms may confuse US students unless the terminology differences are clearly explained to them before they use the book.

In addition, the book is an excellent reference resource for students and practitioners. Students should find it quite helpful when working on class projects. Practitioners in various areas of international business should find the book useful when wanting answers to basic accounting questions concerning practice in the EU.

Academic researchers should also appreciate the book as both a quick reference on European accounting practices as well as for its perspectives on more traditionally well-known international accounting topics. The authors have drawn their information from a large and diverse literature and present some topics in different ways and with new illustrations. Their extensive reference lists may also be useful, especially to new researchers.

While the book has a number of strengths, it does have a few limitations. First, discussion of the IASC seems fairly dated, even for a 1993 book. Little is mentioned of the comparability project beyond its beginning in 1989. This has implications for the accuracy of some of the comparisons to IASC rules later in the book. Second, while the authors chose to write some of the book in a scholarly style with extensive

use of quotations, the format can be a little distracting at times. Third, occasionally the authors' choice of citations was a little confusing. For example, on page 56 they use a 1966 quote relating to the use of US accounting training materials in New Zealand. As in this example, sometimes this reader was left wondering if the information provided was still current and/or relevant.

Finally, future editions of the book might benefit by including several additional accounting topics, such as financial instruments, intangible assets, earnings per share, and the use of reserves, in their discussion of each country's accounting practices.

While some may argue that there is not enough detail on many topics, that is also one of the book's strengths. By its brevity, the book is able to present an overview of international accounting issues and European accounting practices without getting bogged down in too many details. Those desiring further details on particular topics can then use the extensive references to help them find more information.

Overall, the book provides a good introduction to European accounting. The individual country chapters provide a wonderful summary that practitioners, international accounting researchers, and students should appreciate.

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An Analysis of the Development and Nature of Accounting Principles in Japan *by Yukio Fujita. Garland Publishing, New York, 1991, 256pp, $45*

This book is a comprehensive description of the evolution and refinement of Japanese accounting principles from 1890 until 1967. It is a reprinting of Fujita's 1968 doctoral thesis at the University of Illinois, and is part of the *New Works in Accounting History* series, edited by Richard P. Brief. Although coverage stops with 1967, the author has included a 10-page introduction briefly summarizing relevant developments at both national and international levels from 1968 to 1990.

Fujita wrote this treatise "to increase professional understanding and knowledge of the international dimensions of accounting" given the increase in multinational business activities. He felt that many non-Japanese accountants were unfamiliar with and/or did not understand Japanese accounting principles and practices, and how and why they were developed.

Chapter 1 provides the rationale for the book given the then emerging status of international accounting in 1967. The increase in multinational transactions and the need to harmonize accounting standards have only increased during the past 25 years, so the premise of the book is still valid. The author analyzes "historically the social function of accounting principles in Japan using a sociological framework to determine the nature of Japanese accounting principles which have been developed in a unique social climate". This approach can also be applied to analyze the evolution

of accounting principles and policies in developing countries in the 1990s. Fujita sets the remaining chapters within Talcott Parson's framework for social system analysis to "show how each set of accounting principles has performed its conflict-minimizing function in Japanese society". The four concepts underlying this framework are legitimation, including who derives the accounting principles and for what interest groups; application, including how accounting principles are used in corporations, and how that usage is interpreted by auditors; sanctions, including what sanctions exist to support these principles and who applies those sanctions; and administration, including who has been authorized to administer accounting principles.

Chapter 2 provides a detailed history of the genesis of accounting principles in Japan. The history is divided into three distinct stages: (1) groping for uniformity in financial reporting (1890–1947); (2) establishment and improvement of a statement of business accounting principles (1947–1962); and (3) reconciliation of the Commercial Code and a statement of accounting principles (1962–1967). The first stage (1890–1947) correlates the emergence of Japan's industrial society with the formalization of Japan's Commercial Code, the creation of the economic planning board, and the issuance of tentative standards for financial statements of manufacturing companies. The Commercial Code regulated both the business transactions and the people ("traders") involved in those transactions. The first stage ends with the economic and social changes experienced by Japan due to World War II and its immediate aftermath. The second stage (1947–1962) chronicles the influence of the occupation of Japan by the Allied Powers on accounting practices and procedures, and the displacement of economic/industrial cartels (the *Zaibatsu)* with independent corporations. During this period, the Commercial Code was revised, as were *Working Rules for Preparing Financial Statements* and *A Statement of Business Accounting Principles*. However, there were some conflicts between the Code and accounting principles. The third and final stage (1962–1967) includes the harmonization of the Commercial Code and *A Statement of Business Accounting Principles* through more revisions and the enactment of regulations governing corporate balance sheets and income statements. The analysis of these three time periods comprises Chapters 3, 4 and 5. Although Fujita includes an introduction to the main text which summarizes events subsequent to 1967, the book could have been strengthened by including events from 1967 to the present in the same detail as the first three stages, in both history and analysis.

Chapters 3, 4 and 5 provide an in-depth analysis of the economic, societal and political influences that affected the formation and refinement of Japan's accounting principles during the three stages outlined in Chapter 2. Chapter 3 discusses how and why the accounting provisions in the Commercial Code developed. Sample financial statements are provided to illustrate the ambiguity of the information presented during this stage. The reticence on the part of Japanese executives to share detailed information on their companies' financial positions and results of operations stemmed in part from the domination of the industrial society by the *Zaibatsu* and their control over the banking, trust and insurance areas. The *Working Rules for Preparing Financial Statements* issued by the Ministry of Commerce and Industry in 1934 were an attempt to remedy the lack of detailed accounting guidelines in the Commercial Code. The Working Rules ensured that financial statements would

be prepared in a consistent manner and provide detailed information for stockholders for an analysis of any company's financial position.

In Chapter 4, the post-war influence of the Allied Powers on the continuing standardization and tightening of accounting principles and reporting requirements in Japan is analyzed. The production of "clear, intelligible financial reports" was part of making Japan a "sound, democratic, industrial economy" modeled on US and European norms. The publication of *A Statement of Business Accounting Principles* was an important part of this transition. The statement itself, as well as detailed explanations of its principles and standards, are described in this chapter, as are the Certified Public Accountants Law and the unfortunately ineffective revisions of the Commercial Code.

Chapter 5 discusses the short 6-year third stage of development from 1962 until Fujita's dissertation was completed. The issuance of the Ministry of Justice's *Regulation for Corporate Balance Sheets and Income Statements* in 1963 dictated the effective application of the Commercial Code given the accounting principles adopted in the 1950s. The *Regulation* is described in detail, as well as the theoretical and legal connections between the Commercial Code, the Securities Exchange Act, *A Statement of Business Accounting Principles*, and other related regulations. The chapter closes with the *Revised Statement of Business Accounting Principles*, which became a practical, rather than theoretical, guide to accounting practice.

Chapter 6 provides a summary and conclusions regarding the state of accounting in Japan as of 1967. This chapter should be rewritten and updated to include and expand on the 10-page summary of the period from 1968 to the present provided by Fujita. The reader is left somewhat unsettled when the history abruptly stops in 1967. Given the emergence of Japan as an industrial power and the increasing globalization of trade during the last 27 years, an analysis of this period should be added to the text.

Although coverage is not complete, this book is useful for accounting historians and readers who are interested in how the development of accounting principles in Japan were (and still are) affected by the legal, societal and economic environments. Its publication makes accessible a detailed analytical chronology of Japanese accounting which has otherwise been unavailable for comparative research from a historical perspective.

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Global Perspective: Internationalizing Management Education

edited by Alan M. Rugman and W.T. Stanbury. *Centre for International Business Studies, University of British Columbia, 1992, 352pp, $12.00.*

The book is a compilation of papers which were originally presented at the "Internationalizing Management Education" conference held at the University of British Columbia during June 1992. In addition to these conference papers, several additional papers were prepared as a result of the discussion at the conference and included by the editors in this volume. As stated by Stanbury, the purpose of this book "is to diffuse the benefits of the research, thinking and experience of those who have focused on the ways in which business schools are (or should be) meeting the challenge of internationalizing the education of managers."

The book edited by Rugman and Stanbury has successfully met this stated purpose. The 22 papers are well integrated and link together effectively around a common theme. While many of the authors address similar topics, redundancy is barely present because each author takes a fresh and original perspective. These papers have been thoughtfully written by active scholars. The book does not deal with internationalizing accounting except in Chapter 12. However, the discussion in the other chapters on international business and on internationalizing other functional disciplines, such as finance, is readily generalizable to the accounting curriculum and faculty.

There are 23 chapters. Chapter 1, written by the editors, describes the book's organization and provides a cogent summary of the papers that are presented in each of the subsequent chapters. These papers were thematically subdivided into four parts.

Part I, consisting of Chapters 2–5, focuses on strategic approaches to the internationalization of management education. The authors of Chapters 2 and 3 forcefully argue that when a college of business has decided to embark on a plan to internationalize the curriculum content there also exists the interdependent need to internationalize the research skills and knowledge of the faculty. These two facets are concomitant and inseparable. One cannot occur in the absence of the other. Effective internationalization within the business school is not achieved by the creation of a separate department or degree program in international business. Instead, the authors believe that internationalization of the curriculum and research must be incorporated in all discipline areas within the business school. However, they observe that there seems to be a reluctance by many faculties to change their teaching and research agenda. This reluctance may be due to a lack of sufficient incentives and a heavy investment of time and energy necessary to develop competency in a particular area of international business. Chapters 4 and 5 argue for an increased emphasis on incorporating the study of international politics and of global economic concepts and institutions in the international business curriculum.

Part II, consisting of Chapters 6–10, focuses on attempting to identify the domain of international business. Chapter 6 examines, from a journal editor's perspective, academic research that is intended to be of an international nature. Comparative studies that center on cross-national interactions have predominated; however, a move toward discipline-based research in the context of a particular international business area is continuing to evolve. Chapter 7 addresses the methods of foreign language training and the importance of also incorporating nonverbal cultural

knowledge. Various types of regional studies programs are covered in Chapter 8. The author favours teaching these courses within the business school because they can be integrated with the other course work of the business student. If the regional studies courses are taught outside of the business school, integration with other business courses is unlikely. Alternatively, others argue that regional studies should be integrated into the regular courses of business students, thereby yielding an "internationalized" curriculum. Chapter 9 focuses on the use of learning techniques that are particularly well suited for the international environment that is characterized by equivocal/ambiguous situations. In these situations, many of the traditional analytical tools taught in our business courses are not very effective. Chapter 10 reports on the survey of 47 introductory textbooks used by the basic business disciplines. The authors noted that "accounting textbooks ... by and large ignore international issues". "In general, across all surveyed texts, the amount of coverage given international material is token."

Part III, consisting of Chapters 11–16, examines how six functional disciplines could be internationalized. Chapter 11 addresses international finance, a topic that is usually relegated to being the last chapter of a textbook (and therefore, infrequently covered). The author adopts an integrative view and advocates that the international finance dimension should be considered as each subject area is covered in a finance course. He explains in the paper which international finance topics should be included. Chapter 12 discusses internationalization of the accounting curriculum that was undertaken by Brigham Young University (BYU). This is the only paper that specifically focuses on accounting. The author defines the domain of international accounting to consist of two major areas: descriptive/comparative accounting and the accounting dimensions of international transactions/multinational enterprises. This paper also provides a summary of previous research studies that surveyed practitioners and academicians on the key international topics to be covered at the undergraduate and graduate level. The author reviews the various approaches of internationalization: infusion throughout the curriculum, creation of a special course, and variations of these two approaches. The chapter concludes with a description of BYU's evolving effort to internationalize its accounting program. Chapter 13 discusses international operations management with an emphasis on organizational learning. Chapter 14 reports on research that examined perceptions of executive programs in global marketing. Chapter 15 examines at the internationalization of human resource management from the perspective of cross-cultural learning experiences. Chapter 16 addresses interna-tionalizing strategic management via a paradigm that focuses on becoming a world-class company, identifying and nurturing core competencies, and continually assessing the company's competitive advantage.

Part IV, consisting of Chapters 17–23, addresses the challenges of implementing the internationalization of programs in business schools. The last seven papers were primarily written by business school deans. Therefore, the emphasis shifts to a college-wide perspective as opposed to a discipline or specific course perspective. These seven papers not only provide a broad-based overview but also effectively synthesize the viewpoints expressed in the previous 15 chapters. Chapter 17 examines alternative organizational structures and their appropriateness for specific internationalization strategies. Chapter 18 describes the impact on the faculty, curriculum, and culture

of the internationalization process at the University of Michigan Business School. Chapter 19 is a sobering account of the pedagogical, political, and institutional barriers to internationalization at the University of Oregon. Chapter 20 addresses the importance of greater research activity by faculty on international topics as the basis for internationalizing management education. Chapter 21 discusses the internationalization effort at Swinburne University in Australia. Chapters 22 and 23 report on student exchange and island programs for fostering travel to and study experiences in foreign countries.

In summary, I recommend reading Chapter 2 first because it specifically sets the tone of the entire volume by defining the concept of "internationalization of the curriculum and faculty" as an operating philosophy. Then I would read Chapters 17, 18, and 19 because they are very effective for giving one a sense of the "big picture" and the issues (politics) involved. Any faculty member or dean that is thinking of or involved in internationalizing management education should examine the contents of this book. We live in the age of the "quick-fix" and "let's just do it" mentality. When driven by egocentric visions of grandeur and by uninformed lobbying by external pressure groups, changes in curriculum and academic programs frequently result in a cosmetic sop of short duration and of dubious benefit to students. However, as this book points out, reflection, commitment, and faculty development are necessary precursors to changes that will result in value-added educational/learning outcomes. It will take a long-term effort, research, and adequate resources to internationalize the curriculum and faculty effectively. The scholars who contributed the papers to this volume and the editors who orchestrated the creation of the book have provided us with a top-quality reference work. I highly recommend it.

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