
INDIAN

JOURNAL OF

ACCOUNTING

VOL. XXV JUNE 1994



**JOURNAL OF
THE INDIAN ACCOUNTING ASSOCIATION**

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INDIAN JOURNAL OF ACCOUNTING

Vol. XXV

June 1994

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EDITORIAL

The present issue contains six articles in different areas of accounting and finance. Brian Andrew and Peter Graham present the results of a study of the statistical relationship between the operating cash flows and profits of a sample of the top 150 Australian companies. Asit K. Sengupta estimates the firm (industry) level liquidity based on the flow concept and tries to establish a linkage between the liquidity of the firm (industry) and that of the economy as a whole. Partick Hutchinson and Kerrie Mengersen investigate the effects of stage of development of the firm on the distributional properties of accounting ratios. Arun Prakash Neogi and Debashis Mazumdar explain the behaviour of the venture capitalist with the help of a model. While M. K. Kolay attempts to evaluate the effectiveness of different human resource valuation models and suggests a relative HR value measure to facilitate the human resource management process in an organisation, Hemendra K. Porwal, in his last article, highlights the views of different categories of users on accounting standard-setting in India.

May I now draw the attention of our members to the international conference news published elsewhere in this issue ? I hope a number of our members will attend them to strengthen our international academic relation.

Lastly, I must thank the members of the Editorial Board, Associate Editors, office-bearers of the IAA and those of the IAA Local Branches for their kind support to me for publishing the journal timely and regularly during my tenure.

Calcutta
May 18, 1994

B. Banerjee
Chief Editor

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CASH VERSUS ACCRUAL ACCOUNTING—SOME ISSUES

Brian Andrew *
Peter Graham †

This paper reports the results of a study of the statistical relationship between the operating cash flows and profits of a sample of the top 150 Australian companies. The empirical study reports relatively low and variable correlations between these flows from year to year. The difference between profit and cash flow from operations is a temporal phenomenon as the two flows should be the same over the life of a firm. However, short-run differences between the two flows will tend to raise significant financial management problems in the areas of dividend policy and capital investment decisions. Significant short-run differences between profits and cash flow from operations may place stress upon the liquidity and solvency of the company and this raises important financial management issues. The paper also reports the results of a test of the incremental information content of a firm's operating cash flows above that contained in the published profit number. Efficient markets research has found that security prices rapidly impound publicly available information in a 'semi-strong form efficient' capital market. The profit number is 'publicly available' at the time of announcement to the stock exchange and many studies have reported a significant share price movement around the announcement date. The cash from operations figure can be estimated by financial analysts at the time of publication of the firm's annual report and if cash flow information has incremental information content then this could be expected to cause a second share price movement.

The management of a corporate enterprise is responsible to shareholders for the short-run operations of the business and for maintenance of the long-run viability of the business. The directors of a company are required to account annually on their 'stewardship' of the firm and the Corporations Act imposes a range of annual reporting obligations upon management. The financial statements prepared by management on an historical cost basis are used by the shareholders and by parties external to the firm to appraise both management and firm performance. Emphasis is commonly placed on the profit and loss statement, and the profit figure is commonly viewed as the single most important indicator of firm and management performance. Management is therefore encouraged to maximise the short-run profits of the firm as this is most likely to result in an increase in the firm's share prices and consequently the value of the firm. This is also likely to lead to an increase in the remuneration and status of management in the short-run. Management behaviour which aims to maximise profits, or at least increase profits over time, is supported by a body of research in accounting and finance which shows that profit is a significant variable which is impounded into share prices in the share valuation

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process.¹ But management must also pay due regard to the longer-term performance of the business and to maintaining an appropriate level of liquidity and the overall solvency of the business.

It is often thought that adequate levels of profitability guarantee business solvency, and this may well be true in the long-run. However, the most important single determinant of business solvency, i.e. the capacity of a firm to meet its obligations as they fall due, is a function of the cash flows of the firm. The most important indicator of a firm's cash generating capacity is the cash generated from the operations of the firm and there is now a body of evidence which indicates that many firms' cash flow from operations (CFO) is not highly correlated with their profits in the short-run. In the long-run the total CFO of a business should equal its profits as measured under the historical cost model, but business survival depends upon the maintenance of solvency on a day to day basis and profit may not be the best indicator of a firm's solvency in the short-run.

The accrual accounting process tends to move the profit figure away from CFO in the short-run because of the tendency of accounting revenues and expenses to differ from a firm's cash receipts and payments through the impact of the accrual accounting process. Accounting records are based on exchange prices measured in money terms. However, a range of cost allocations and other estimates pervade the accrual accounting process. The accounting profit figure is an attempt to measure the increase in shareholders' money capital earned by a firm as a result of its operations during the period. It is not a measure of the net cash received by the firm during the period because of the allocations and estimates which are a feature of the need to divide the life of a continuing business into discrete accounting periods.

This paper provides some empirical evidence of the short-run differences between profit and CFO for a sample of Australian firms and provides a discussion of some of the implications of this issue for management.

Prior Studies

A number of studies have offered evidence on the statistical relationship between the accrual-based accounting profit measure and various other accounting flow variables. These studies have provided ambiguous results, with the earlier studies of Gombola and Ketz (1981) and Drtina and Largay (1985 b) finding evidence that CFO was not statistically different from funds (working capital) from operations (WCFO). On the other hand, the more recent studies of Gombola and Ketz (1983 a & b), Thode *et al* (1986) and Andrew *et al* (1988) have found that CFO was a distinct measure "not easily inferred from other performance measures" (Thode, *et al* 1986, p 55).

¹ See for example R. Ball & Brown P, 'An Empirical Evaluation of Accounting Income Numbers', *Journal of Accounting Research*, Autumn 1968 and W. Beaver & Dukes R., 'Interperiod Tax Allocation, Earnings Expectations & the Behaviour of Security Prices', *Accounting Review*, April, 1972.

Whilst these studies leave some questions about the nature of the statistical relationship between WCFO and CFO all the studies have shown that profit and WCFO were so closely related that they are "relatively unlikely to provide users with different information from that contained in the earnings number" (Bowen *et al*, 1986, p 719). The studies were also unanimous in finding "the lowest correlation between CFO and NI (profit)" (Gambola and Ketz, 1983 b, p 69). The relatively low correlation between CFO and profit suggests that these two accounting series represent two different economic variables and that management should be fully aware of the importance of the different temporal characteristics of these two accounting variables. Management should be aware of the need to balance the economic consequences for security valuation and firm solvency flowing from the different temporal characteristics of accounting profits and a firm's operating cash flows.

Cash flow information may be a useful signal of changes in the levels of liquidity of firms, developing problems of solvency and changes in the risk characteristics of firms. This may have significant implications for the value of a firm, because changes in a firm's risk characteristics may have deleterious implications for the firm's share price. Volatile cash flows will tend to signal an increase in the risk associated with investment in a firm. Since risk² is an attribute which is relevant to share valuation, management must work to optimise the performance of the firm through improved profits and stable risk characteristics. A number of studies have investigated the relevance of cash flow information for share valuation (Ball & Brown, 1968; Beaver & Dukes, 1972; Patel & Kaplan, 1977) using a crude measure of cash flow such as profit plus depreciation and amortisation (WCFO); these studies have found that 'cash flows' (as defined) do not have incremental information content over the published profit figure in share valuation. Bowen, Burgstahler & Daley (1987) and Wilson (1986), using more refined measures of CFO, found that WCFO did not have incremental information content beyond that contained in the profit variable, though CFO was found to have information content. The generalisability of Wilson's findings were questioned by Bernard & Stober (1989), who did not disagree with Wilson's results for the time period 1981-2 studied. However, they found no information content for most of the period 1977 to 1984. These studies provide inconsistent evidence as to the relationship between operating cash flows and security prices, suggesting that there may be a complex range of factors which impinge upon the security market response to cash flow information.

Research Method

Investment analysts and bankers have long recognised the importance of cash flows in assessing business risk and in recent years a body of literature has developed around the idea of estimating the 'quality' of a company's earnings (c.f. Siegel, 1982; Comiskey, 1982). The process of assessing earnings quality "entails

2 The capital asset pricing model is derived from portfolio theory which identifies two attributes of investors' preferences, "the expected return (also called reward) and the variance of the return (also called risk) of the portfolio" (Beaver, 1990, pp 29-30).

extracting the continuing operating cash flow from earnings reported on an accrual basis" (Comiskey, 1982, p 34). Users who are interested in assessing business solvency require information on cash flows because this provides key information about the firm's capacity to pay its debts as they fall due. The accrual accounting model has tended to move the profit figure away from the underlying cash flows of the firm because of the increasing tendency to include a range of non-cash accruals and estimates such as deferred tax liabilities, equity accounted profits and the deferral of expenditures such as research and development and mineral exploration costs.

Accounting allocations have been the subject of debate over a considerable period, with many theorists expending considerable effort in arguing the merits of various allocation methods and in devising better ways of allocating costs and revenues between periods. The futility of this exercise was revealed by Thomas (1969, 1974) who showed that all accounting allocations are arbitrary and argued that "financial accounting had no defensible theory of allocations" (Thomas, 1974, p xiii). His study addressed the fundamental question of the usefulness of accounting profit measurement based on arbitrary allocations and noted the "widely recognised tendency of financial analysts to eliminate at least the depreciation allocations from the calculation of net income, and to report 'cash flow' income instead" (Thomas, 1969, p 99).

The type of 'cash flow' income reported by Thomas is a somewhat unsophisticated estimate of a firm's actual cash flows. Removing the depreciation allocations from the calculated profit will generate an estimate of the working capital from operations (WCFO) rather than the CFO. The relationship between the three flows is depicted in figure 1 below :

Figure 1

The Relationship between CFO, WCFO and Profit
PROFIT

plus : Expenses not reducing working capital (e.g. depreciation)

less : Revenues not increasing working capital (e.g. equity accounting income)

(i.e. plus or minus NON-CURRENT ACCRUALS)

equals : **FUNDS (WORKING CAPITAL) FROM OPERATIONS (WCFO)**

plus/(less) : Decreases (increases) in non-cash working capital assets (e.g. accounts receivable & inventories)

plus/(less) : Increases (decreases) in non-cash working capital liabilities (e.g. accounts payable)

(i.e. plus or minus CURRENT ACCRUALS)

equals : **CASH FROM OPERATIONS (CFO)**

Companies in Australia have until recently published their annual profit (or loss) and a figure for the funds (generally working capital) generated from the operations of the business. Consequently these two figures were extracted from the accounts of the top 150 companies (excluding banks, finance companies and insurance companies) listed on the Sydney Stock Exchange for the years 1982 to 1990. This gave a sample in excess of 100 companies for most years of the study. The CFO figure was not published by companies during the period of the study so it was estimated for each of the companies using a method based on the relationship depicted in Figure 1. This method is subject to limitations (see Drtina & Largay, 1985a) and only provides an approximate measure of a firm's CFO, but it was necessary to use this method because of the lack of direct disclosures in the annual reports. All the previous studies seem to have used a similar method of estimating CFO, based upon the method publicised by Largay & Stickney (1980) or an algorithm using this method.

As can be seen the three flows, profit/loss, WCFO and CFO, are derived from the same data set and are related, but the differences between these flows should be of interest to management and to the users of published accounts. In general it appears that the association between profit/loss and WCFO could be expected to be closer than the relationship of either of these variables with CFO. This follows because WCFO and profit differ only by the allocation of certain non-period cost and revenue flows such as depreciation. CFO could be expected to be different because of a more substantive reason, as a firm's CFO will reflect the result of management's short-run investment decisions in relation to non-cash current assets and liabilities, decisions about the level of inventory, credit policy and short-term financing.

The Statistical Evidence

The three variables were found or estimated for each of the sample companies and a cross-sectional ordinary least squares regression was calculated for the pairs of variables, CFO and profit and CFO and WCFO. The objective of this analysis was to determine whether the value of the undisclosed dependent variable (CFO) could be predicted from each of the independent variables, profit and WCFO, which were both disclosed in the financial statements of the sample companies. As discussed above, it would be expected that CFO would be related to each of the other two variables, but, because it is affected by the range of management policies noted above, the regression equation would not be such as to allow accurate prediction to be made. The results of the OLS regressions appear below in Table 1 :

Table 1
Regression Equations CFO on WCFO and CFO on Profit

$$\begin{array}{l} \text{CFO} = 5.51 - 0.35 \text{ WCFO} \quad R^2 = 0.28 \\ \text{CFO} = 9.45 - 0.48 \text{ profit} \quad R^2 = 0.12 \end{array}$$

The co-efficient of determination (R^2) for each of the regressions indicates the poor predictive power of the regression equations. In aggregate it appears impos-

sible to predict the undisclosed dependent variable (CFO) from either of the disclosed independent variables.

To provide a further test of the strength of association between the three flows zero-order cross-sectional correlations were first calculated for each pair of variables over each of the nine years. The Spearman rank correlation was calculated alongside the Pearson product moment correlation co-efficient because any violations in the assumptions (e.g. of a normal distribution) could adversely affect the results found. Further, the existence of negative scores in the sample may have an adverse impact on the results of the Pearson product moment correlation, while the Spearman rank correlation would not be affected. The Spearman test may also disclose other monotonic relationships between the flows. The spearman rank correlation test has been shown to be almost as powerful as the Pearson product moment correlation even when the assumptions of the latter have not been violated. The results of these tests are shown in Table 2 below :

Table 2
Summary of Zero-Order Correlation Co-efficients for CFO, WCFO & PROFIT/LOSS

Year	No	Correlation between CFO & Profit/Loss		Correlation between CFO & WCFO		Correlation between WCFO & Profit/Loss	
		P	S	P	S	P	S
		1982	113	.10*	.36	.32	.55
1983	114	.19*	.55	.49	.73	.46	.79
1984	117	.19*	.61	.67	.83	.74	.73
1985	117	.30	.53	.36	.72	.42	.75
1986	117	.30	.50	.59	.76	.42	.71
1987	100	.28	.61	.28	.68	.86	.92
1988	100	.71	.56	.93	.71	.71	.77
1989	100	.34	.53	.52	.69	.59	.71
1990	97	.55	.72	.76	.78	.20	.86
MEAN		.33	.50	.55	.72	.54	.78

All correlation co-efficients were significant at $p < .05$ except for those marked.*

The first impression from the correlation co-efficients in Table 2 are much as expected with all pairs of variables positively correlated. This was expected because profit, CFO and WCFO are all derived from the same data set, as depicted in Figure 1 above. There is a generally high correlation between WCFO and profit/loss with

the Spearman rank correlation co-efficients being very high for all the nine years (mean. 78).

The Pearson product moment correlations, on the other hand, are lower (mean .54), thus suggesting a strong monotonic relationship between WCFO — profit/loss and highlighting the limited impact of removing the non-current accruals from profit.

It can also be observed that WCFO and CFO are highly correlated, indicating the limited impact of removing the current accruals from the WCFO figure; this finding tends to support the findings of Gombola and Ketz (1981) and Drtina and Largay (1985a).

The correlation between CFO and profit/loss is low for the Pearson product moment correlation test but it is in the intermediate ³ range for the Spearman test. However, the results are consistent with earlier findings that the correlation between CFO and profit/loss is considerably lower than that between WCFO and profit/loss. The impact of removing both current and non-current accruals appears to have produced a series (CFO) which is considerably different to the profit/loss series.

A number of prior studies have indicated that firm size may be a factor which influences the correlation between the three variables. Gombola and Metz (1983a & 1983b), Bowen *et al* (1986), Andrew *et al* (1989) and Percy and Stokes (1992) have used total equity, sales, total assets, total debt and shareholders' equity as normalisation factors. The results suggest that there is little difference between the factors used, but often two normalisation factors have been used to ensure that the results are not specific to the scaling procedure used. The current study employed total assets and shareholders' equity as scaling factors. The results of the zero-order correlations normalised by both total assets and shareholders' equity were similar to the results reported in Table 2 so they have not been reported here. The normalisation was extended further and normalised numbers were used in first-order (partial) correlation tests on the three series. This produced some different results and these results are reported in Table 3 below.

Because the three variables are derived from the same data set and they include a large number of common items, it is highly likely that the association of one variable with another is influenced by the third variable. Consequently, the relatively high Spearman rank correlation between CFO and profit/loss may be largely attributable to the influence of SCFO. To correct for this potential influence partial (first-order) correlation co-efficients were calculated to find the individual level of association between each pair of variables. This procedure indicates the strength of association between two of the variables when the effect of the third variable is held constant, i.e. after partialling out the effect of the third variable. A summary of this analysis is presented in Table 3.

Table 3

3 Decision on whether a correlation is high or low is subjective. Bowen *et al* (1986), for instance, considered a correlation co-efficient of .49 to be low, though many statisticians regard this as high if it is also statistically significant.

**Summary of Normalised First-Order (Partial) Correlation Co-efficients For
CFO, WCFO & Profit/Loss**

Year	No	Correlation between CFO & Profit/Loss		Correlation between CFO & WCFO		Correlation between WCFO & Profit/Loss	
		P	S	P	S	P	S
1982	113	.27	.15*	.57	.49	.42	.76
1983	114	.19*	.10*	.35	.61	.46	.77
1984	117	.22	.16*	.72	.69	.47	.67
1985	117	.20	.05*	.53	.66	.38	.63
1986	117	.23	-.09*	.53	.72	.32	.67
1987	100	.30	-.02*	.07*	.31	.52	.74
1988	100	-.13*	-.05*	.40	.36	.21	.63
1989	100	.11*	-.01*	.34	.45	.17*	.47
1990	97	.24	.05*	.84	.52	-.10*	.52
MEAN		.18	.04*	.48	.53	.32	.65

*All correlation co-efficients were significant at p .05 except for those marked *.*

Table 3 shows that both the Pearson and Spearman first-order (partial) correlations of CFO with profit/loss were much lower than the zero-order correlations. This suggests that the presence of WCFO in the zero-order correlations may have created a spurious impression of the actual level of correlation between CFO and profit/loss. This correlation is unambiguously low under both the Pearson and Spearman series and the level of correlation varies considerably from year to year. Further, there are a number of negative correlations revealed by the first-order correlations and none of the Spearman correlations were statistically significant. This emphasises the highly variable and unstable nature of the relationship between profit/loss and CFO from year to year.

Partialling out the effect of CFO on the zero-order correlations between WCFO and profit/loss only had a minimal effect on the first-order correlations. All Spearman first-order correlations were in the high range and statistically significant. The Pearson first-order correlations were more variable but most were in the moderate range and all but two were statistically significant. These results indicate that CFO has little influence on the association between WCFO and profit/loss. Similarly, the association between CFO and WCFO was not materially affected by partialling out the influence of profit/loss with all Pearson and Spearman correlations remaining statistically significant except for the 1987 Pearson correlation.

Information Content Models

There is an overwhelming body of evidence that WCFO and other similar forms of 'Cash flow' income do not have incremental information content beyond that contained in earnings (Ball & Brown, 1968; Beaver & Dukes, 1972; Patell & Caplan,

1977; Wilson, 1987; Bowen *et al*, 1987). Consequently, no test of the information content of WCFO was executed.

Information content studies must consider a number of factors including the length of the return window over which information content is to be measured, the measure of share returns to be used, the specification of investors' expectations regarding the event being studied and how to measure the association between unexpected accounting information and share returns. Each of these factors was considered, together with the problem of post-announcement drift, in arriving at the models used in this study.

The association between share price returns and unexpected CFO was measured by comparing the returns of portfolios formed according to the sign and magnitude of unexpected information and by using cross-sectional regression.

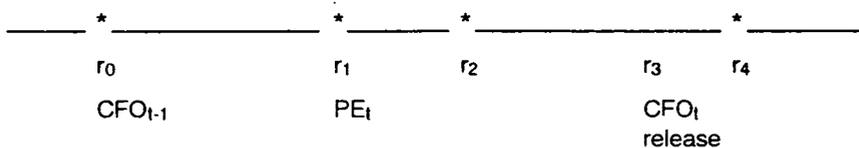
Cross-sectional regression has been used in most information content studies (e.g. Rayburn, 1986; Bowen *et al*, 1987; Livnat & Zarowin, 1989). This method is more powerful than the portfolio comparisons method but interpretation of the results may be difficult if the assumption of linearity between the return metric and the new information is not adhered to. The effect of outliers in cross-sectional regression also affects the inferences drawn.

The portfolio comparisons model was also used because it is not sensitive to the assumptions mentioned above. However, this model is less powerful in its use of information.

Both methods were used so as to gain the benefits that each model can provide. Furthermore, the portfolio model can assist in the specification of the regression model by indicating when the market reacts to information so there is potential synergy in using the two models together.

Both the portfolio and cross-sectional regression models follow the single-date system used by Wilson (1987) and depicted in Figure 2 below :

Figure 2
Single-date Model



The single-date model assumes that the annual reports are released at r_3 and that information on CFO is also available at this date because the market can make the necessary adjustments to the accrual-based financial statements instantaneously. Under the random-walk assumption, information which is useful in predicting CFO_t was released at r_0 , in the previous year's annual reports. Investors' expectations regarding CFO_t can also be specified at r_0 and these expectations (I_{r_0})

are immediately impounded into share prices at that time (r_0). At r_3 , when CFO_1 is released, the difference between CFO_1 and I_{r_0} is assumed to represent new or unexpected information. The event period between r_2 and r_4 represents the period over which this new information is impounded into share prices. This event period must be narrow enough to only capture the information content of CFO, yet wide enough to capture the whole market reaction.

If preliminary earnings information (PE_1) was released at r , prior to the release of CFO_1 the market would not again react to the earnings figure reported in the financial statements unless it was different to that reported in the preliminary announcement. As a result, the market reaction to CFO_1 would not be affected by the earnings figure contained in the financial statements.

Portfolio Model

The portfolio model used in this study considered cumulative abnormal returns over various return windows. An eleven day return window was chosen because it was thought to be wide enough to capture the impact of CFO-induced price revisions and yet narrow enough to control for the release of other information which may confound the impact of the CFO information (c.f. Hagerman, 1984). A thirty-one day return window was also examined to determine whether any significant revisions could be found outside the basic event window due to an incorrect operationalisation of the information release date or problems encountered with post-announcement drift (Lev, 1989).

Efficient markets research has found that security prices rapidly impound 'publicly available' information (see, e.g. Brown, 1978)⁴ though post-announcement drift may vary according to how closely the shares are held and the extent of market interest in the shares (Latane & Jones, 1979). Post-announcement drift presents problems for capital market research because the significance of a particular 'event' cannot easily be isolated from others (Foster *et al*, 1984). To reduce the problem of post-announcement drift (following Wilson, 1987) it was decided to select only companies which made a preliminary announcement of earnings of revenues at least eight days before the release of the annual report.

To further discern the effect of the profit announcement on security prices the sample was partitioned into four groups based on the sign of profit/loss and CFO changes. Companies that reported an increase in profit or CFO between r_0 and r_3 were called 'good news' companies, while companies which reported decreases in profit or CFO were called 'bad news' companies. As the preliminary earnings announcement precedes the release of the CFO information, a company that reported an increase in profit and a decrease in CFO was known as a 'good-bad' (GB) company. Similarly a company that reported lower profits and higher CFO was classified as a bad-good (BG) company. The four portfolios were thus called BB, BG, GG and GB.

⁴ Brown (1978) reported a post-announcement drift for both good-news and bad-news companies over a period of sixty trading days.

The various return windows of the four portfolios were then graphed in order to assess the information content of CFO.

Cross-sectional Regression Model

In order to further test the potential information-content of CFO, cross-sectional regressions were performed, similar to those used by Wilson (1987), Bernard & Stober (1989) and Andrew & Chew (1990). The model can be written as :

$$CAR_{i,t} = \alpha + \beta UCF_{i,t} + e_{i,t}$$

Where : $CAR_{i,t}$ = The cumulative abnormal return for company i during the specified return window surrounding the release of the annual report.

$UCF_{i,t}$ = Unexpected cash flow from operation for firm i normalised by total assets.

The return windows tested include a five and nine day window centred on the annual report release date and various other windows either side of the annual report release date to test the accuracy of the release date proxy.

Following Foster (1986), unexpected cash flow from operations was deflated by both total assets and shareholders' equity. By converting unexpected cash flow into ratio form any spurious results caused by size effects were controlled.

An assumption implicit in the model is that the value of unexpected earnings is zero. This can be assumed because earnings have already been announced by all companies selected in the sample at the time of publication of the annual report. By controlling for the release of earnings it was possible to test whether CFO had any information content beyond earnings. This hypothesis would be rejected if the co-efficient β equalled zero and if the co-efficient of determination (R^2) for the regression was low.

Cross-sectional regressions were performed at both the individual security level and on separate portfolios formed to reflect similar levels of unexpected CFO changes for the companies within the portfolio. The regressions were principally performed on a pooled basis, though a cross-sectional regression was later performed over each year to determine whether the results were constant across time. Each regression was conducted at the individual security level primarily to assist in comparability with previous studies. Both Wilson (1986, 1987) and Bernard & Stober (1989) examined the information content of cash flows at the individual security level. Other information content studies using annual holding periods have also examined the issue at this level (e.g. Beaver *et al*, 1982; Rayburn, 1986; Schaefer & Kennelley, 1986; Bowen *et al*, 1987; Board & Day, 1989; Livnat & Zarowin, 1990).

A cross-sectional regression was conducted on various portfolios in order to determine whether portfolios formed on the basis of the sign and magnitude of cash flow changes differed in their association with abnormal returns. Following Beaver *et al* (1979) and Foster *et al* (1984), the portfolios were constructed by partitioning companies into twelve portfolios based on the sign and magnitude of changes in CFO. The results of Beaver *et al* (1979) suggest that portfolios based on the level

of unexpected earnings changes are associated with the sign and magnitude of abnormal returns. This implies that investors perceive that unexpected earnings contain a 'permanent' component and that current earnings can be used to predict future earnings for many companies. This concept will be applied to cash flows in order to determine whether each portfolio is perceived to contain the same level of permanency.

A final regression was performed over each year studied to check for intertemporal stability of the changes in the CFO-abnormal return relationship. Evidence of an unstable CFO-abnormal return relationship has been found in several information content studies using annual return windows (Schaeffer & Kennelley, 1986; Bowen *et al*, 1987). Bernard & Stober (1989) also found that the CFO-abnormal return relationship was inter-temporally unstable over a nine-day window. However, Rayburn (1986) disagreed with these results. Using a random-walk model over 20 years Rayburn (1986) found that the CFO-abnormal return relationship was inter-temporally constant and significant. This suggests that CFO may be useful in predicting abnormal returns as the form of the CFO-abnormal return relationship must remain fairly stable across time if CFO is to be useful in predicting future returns. An unstable relationship, as found by Bernard & Stober (1989), would reduce the potential information content of CFO as a predictor of future security returns. It should, however, be noted that CFO information may still be useful in a range of decision context, such as in assessment of solvency or risk, even if the CFO-abnormal return relationship was found to be inter-temporally unstable.

Empirical Results

Cumulative abnormal returns (CAR) for each of the four portfolios were depicted graphically with mixed results. The 31 day return window revealed changing trends for each of the portfolios more fully than the 11 day window. The wider return window may also help to determine whether any mis-specification of the annual report release date proxy exists.

The average period between the release of the preliminary earnings announcement and the release of the financial statements was 60 days ; so it was expected that there would be no consistent pattern until release of the annual reports. This was the pattern revealed by the graphs and is consistent with Foster *et al* (1984) who found that the impact of post-announcement drift on share prices to be minimal sixty days after the release of the earnings figure.

Three of the four portfolios showed a pattern of security price behaviour which was consistent with the impounding of new information on or around the date of release of the financial statements. Companies in the GB and BG portfolios contained CFO information that was different to that provided in the preliminary earnings announcement, as the cash flow information should provide new and different information to that provided by the earnings announcement. The GG and BB portfolios contain cash flow information which is broadly confirmatory of the information contained in the earnings announcement.

Both the GB and BG portfolios appeared to evidence a pattern which was consistent with CFO having information content and the GG portfolio appears consistent with the information content hypothesis, though less clearly than for the first two portfolios. The BB portfolio revealed a contrary picture with a significant upward movement in security prices around the annual report release date. Figures 3 and 4 depict the GB and BG portfolios using a 31 day event window.

In the GB portfolio (figure 3), CARs decreased sharply some twelve days prior to the release of the financial statements and another decrease in CARs can be observed from three days before the release date proxy to two days after the release date. The sharp decline in CARs twelve days before the CFO release date proxy may indicate a mis-specification in the release date proxy or that the market anticipates negative CFO information in the way that Ball & Brown (1968) found it to anticipate earnings information. It is most likely that information from financial statements is available after the earnings announcement and before the annual reports are received by shareholders, i.e. that there is a staggered release of financial statements to various groups of interested parties. The second fall in CARs is consistent with the release of new information close to the proxy date.

The BG portfolio (Figure 4) is also consistent with the release of new information. In this portfolio a downward trend in CARs was evident prior to the release of the annual reports whilst CARs increased sharply one day prior to the release of the annual reports and continued to increase to the end of the return window.

Both these results are consistent with cash flow information being impounded into security prices, as the release of the financial statements coincided with the time of a change in the pattern of CARs and the changes were consistent with the sign of the new cash flow information. The GG portfolio showed a similar change, but on close examination the change was found to be specific to only a few companies and it appeared over a very short period. The BB portfolio result was inconsistent with the other three portfolios, as a sharp increase in CARs occurred around the annual report release date and this trend continued for twelve days. This may have occurred because the CFO information was better than market expectations from the preliminary earnings announcement, perhaps because the CFO information showed that the firm's liquidity was adequate, presenting no threat to the firm's solvency and justifying a favourable market assessment of the risk of the security.

These results remain ambiguous and they must be considered in light of their limitations. Firstly, the naive model used to estimate expectations of changes in profit and cash flow may be inappropriate. Many sources of information are likely to affect investors' expectations as the annual report release date approaches so that returns accumulated over the return window may impound expectations which differ considerably from those predicted under the naive random-walk model. Secondly, the zero- one model used here only provides an approximation of abnormal returns. The market and CAPM models have been shown to provide better results (Beaver, 1981; Shevlin, 1981) especially where the portfolio beta is significantly different to

one and the sample size is small. A further limitation could arise from the choice of the event date proxy. As indicated above the results could be impaired if analysts receive similar information prior to the date on which the report is received by the Australian Graduate School of Management (AGSM) (the release date proxy) or other new information release coincide with the event studies. The use of only the sign of changes in CFO and profit/loss in the zero-one model may also be a limitation. However, this problem should be corrected in the further tests based on cross-sectional regressions. Despite these limitations the initial analysis tends to suggest that cash flows possess information content.

The regression model results test the information content of CFO after controlling for earnings. All cross-sectional regressions were based on observations where the AGSM annual report filing date was available. The Financial Review preliminary earnings announcement date must also have been available and the preliminary earnings release must have been at least eight days prior to the AGSM filing date. These constraints reduced the sample size to 338 firm-year observations over the 1987-90 period.

Cross-sectional regressions were conducted for various periods around the annual report release date at both an individual security level and on twelve portfolios, formed on the basis of the magnitude of change in CFO for the four-year period. A further regression was conducted for each of the years under study at the individual security level. Regression results indicating that CFO has information content should display regression co-efficients which are significantly different to zero. This significance will be analysed by use of a t test. The association between the accounting variable and security returns will also be assessed through the co-efficient of determination (R^2 which provides an additional indication of the information content of CFO.

The pooled regressions at the individual security level were insignificant under both scaling factors. This supports the findings of Bernard & Stober (1989), but is inconsistent with Wilson (1987) over the nine-day event window. This may add support to the suggestion that the information content of CFO may be period specific. The results were similar over return windows of various widths and centred on various days before and after the release date proxy. It therefore appears unlikely that a slight mis-specification of the return window was a reason for the insignificant result.

Twelve portfolios were then constructed, based on the sign and magnitude of cash flow changes. Portfolio 1 contained observations where CFO changes were of the greatest positive magnitude, while Portfolio 12 contained observations where changes in CFO were of the greatest negative magnitude. Portfolios 2 to 11 represented observations in which CFO experienced intermediate changes. CFO was normalised using both total assets and shareholders' equity to control for the effect of firm size. Cross-sectional regressions were then performed on each of the twelve portfolios to determine whether there was a difference in information content evident as the magnitude of the change in CFO increased. CARs were calculated

for both three and nine days surrounding the CFO release date proxy, the regression results for the three days surrounding the release of CFO are listed in table 4 below :

Table 4
Association between CAR and Unexpected CFO for Portfolios Constructed on Sign and Magnitude of Change of CFO (Normalised by Total Assets)

Portfolio	Co-efficient	t-statistic	Adjusted R ²	Degrees of Freedom
1	-0.011	0.251	.035	27
2	-0.250	0.419	.032	26
3	0.515	0.426	.031	26
4	0.968	0.823	.012	26
5	-4.077	1.939*	.093	26
6	2.783	2.062**	.108	26
7	-1.853	1.014	.010	26
8	1.442	0.964	.002	26
9	-11.620	0.541	.027	26
10	0.634	1.204	.016	26
11	-0.175	0.544	.027	26
12	-0.039	1.129	.010	27

* significant at $p < .05$

** significant at $p < .01$

The results show that the coefficients varied considerably between portfolios and those portfolios with the smallest change of CFO possessed the highest coefficients. The coefficients for both portfolios 5 and 6 were significant with portfolios 4 to 9 inclusive having higher coefficients than any of the portfolios with greater unexpected changes in CFO. Further, the portfolios with significant coefficients also possessed the highest coefficients of determination (R^2), indicating a higher level of explanatory power for these portfolios. These results were supported for the twelve portfolios over the nine-day window.

These results may support the 'quality of earnings' argument suggested by Livnat and Zarowin (1990) with share prices only reflecting relatively stable and repeatable cash flows. It may be that the larger changes in CFO were considered transitory by the market and that these transitory changes would not continue to contribute to future cash flows, consequently the market would not impound this component into share prices. Smaller changes in CFO may have indicated a level of stability which was likely to impact positively upon future cash flows. Macro-economic influences should not be ignored either as the information was extracted during an economic downturn and the market may have viewed large changes in cash flows as a transitory consequence of adjustment to the economic downturn.

The final regressions were conducted for each of the four years of study. This was done to examine whether unexpected CFO exhibited an association with CAR in some periods but not in others. Such an association is apparent in studies using annual holding periods (Rayburn, 1986; Schaefer and Kennelley, 1986; Bowen *et al*, 1987; Board & Day, 1989) and Bernard & Stober (1989) showed this to apply to any generalisation from Wilson (1987). Bernard & Stober (1989) were unable to support the hypothesis that this inconsistent association was due to varying 'macro-economic conditions' nor were they able to support a 'quality of earnings' argument. These arguments remain open, however, as Bernard & Stober (1989) tested only one of many possible representations of these concepts.

The results displayed in Table 5 below indicate that there was a significant association between unexpected CFO and CAR over the three day return window in both 1987 and 1990 :

Table 5
Association between CAR and Unexpected CFO for Each Year

Year	3 days Coefficient (t-statistic)	9 days Coefficient (t- statistic)
1987	.233 (264)**	.047 (.25)
1988	.039 (.24)	.044 (.27)
1989	.019 (1.11)	-.034 (.27)
1990	-.043(1.81)*	.029 (2.81)***

* significant at $p < .10$

** significant at $p < .05$

*** significant at $p < .01$

The association between unexpected CFO and CAR over the nine day return window was insignificant in three of the four years with the 1990 coefficient being significant at the 1% level of confidence. There may well be a 'macro-economic conditions' argument here as the market may have been more attuned to the change in risk associated with changes in CFO because of the deepening recession in this period.

Discussion and Conclusions

Agency theory suggests that management will act in its own interest and that there may be conflicts of interest between management and other organisational participants, such as shareholders and creditors. Management and shareholder interests do overlap and both are concerned with maximising the long-run value of the firm. However, there are a range of short-run issues which may disturb the long-run common interest and management's task of maintaining both the profitability and solvency of the firm is made more difficult in the short-run by the different time-series characteristics of firm profits and cash flows. Inter-temporal differences in these two flows are likely to greatly complicate management decision-making and require explicit management attention.

There is now a large body of evidence which indicates that profits broadly follow a random walk. However, a number of studies have recently indicated that operating

cash flows are not randomly distributed over time (e.g. Andres & Austin, 1990; Kinnunen & Niskanen, 1990; Lorek *et al.*, 1992). This paper shows a generally low correlation between profit and CFO from year to year and it provides some evidence of the impact of CFO upon share prices. This differs from period to period and it seems to apply to some portfolios and not to others. These results raise important financial management issues in two areas; firstly dividend policy and secondly capital investment decisions.

Dividend policy is likely to be complicated by the different inter-temporal characteristics of the two flows because of the legal and economic pressures upon the dividend decision. Legally a firm requires profits before it can pay a dividend and the economic constraint upon dividends comes from the need to have a cash flow or access to a pool of cash. In the situation depicted above it is clear that profits and cash flows often arise in different periods and a firm in this situation will often be forced to borrow or defer investment decisions so as to acquire the necessary cash to support a dividend payment. Borrowing to pay dividends will tend to increase risk and this will have a negative impact on the value of the firm. Deferring a profitable investment will similarly impact negatively on the value of the firm but this impact is likely to be spread over a longer period.

Long-term capital investments are normally appraised using a budget which is based on expected future cash flows. The cash basis of capital budgeting decisions may have a very adverse impact on management unless due attention is paid to the impact of the investment decision upon firm profits in the short-run. Management performance is reviewed from year to year and the profit yardstick is the dominant means of assessing performance. Consequently, a positive net present value investment may be rejected if it has a strong negative impact on profits in the short-run. Sub-optimal management decisions may result from a need to maintain short-run profits independently of the need to maintain the firm's liquidity and to provide for growth. The different intertemporal characteristics of profits and cash flows will serve to complicate management capital investment decisions and make it imperative for management to inform the market fully about the cash flow implications of investment decisions independently of the impact of the decision upon profits.

This study shows that profits and CFO are poorly correlated from year to year and this will tend to complicate management decision-making and shareholder appraisal of management performance. It also provides ambiguous evidence of information on a firm's CFO being impounded in security prices in some circumstances, supporting the similarly ambiguous results found in various overseas studies. Management should, therefore, be aware that significant changes in a firm's CFO may be impounded into the firm's share price. Volatile CFOs from year to year may signal an increase in a firm's risk and adversely impact on the firm's share price. This may explain the results in some recent studies of the time-series behaviour of cash flows which indicate that they do not follow a random walk. CFO may be a series which is carefully managed to maintain its stability through short-run manage-

ment decisions about the levels of debtors, creditors and inventories. Maintenance of a stable pattern of cash flows will provide a firm with a suitable level of liquidity, preserve its solvency and also have a positive impact on the firm's share price and it is an important function of management to maintain adequate levels of cash flows from a firm's operations as this is the ultimate source of a firm's capacity to pay its debts as they fall due.

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Figure 3
CARs For Good-Bad Companies

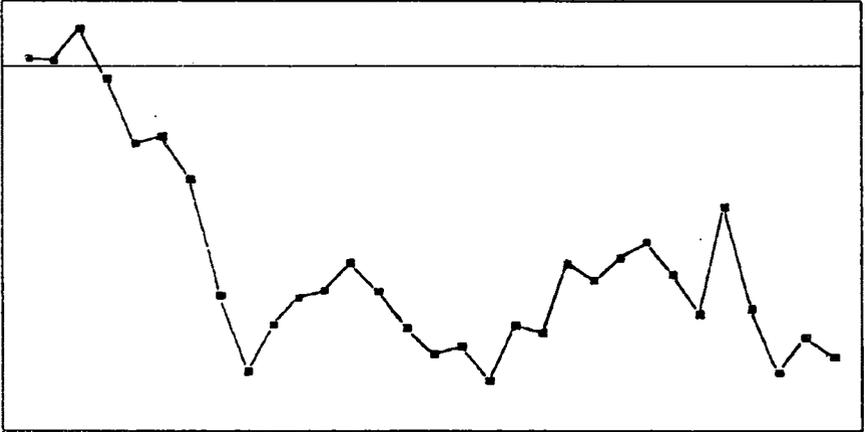
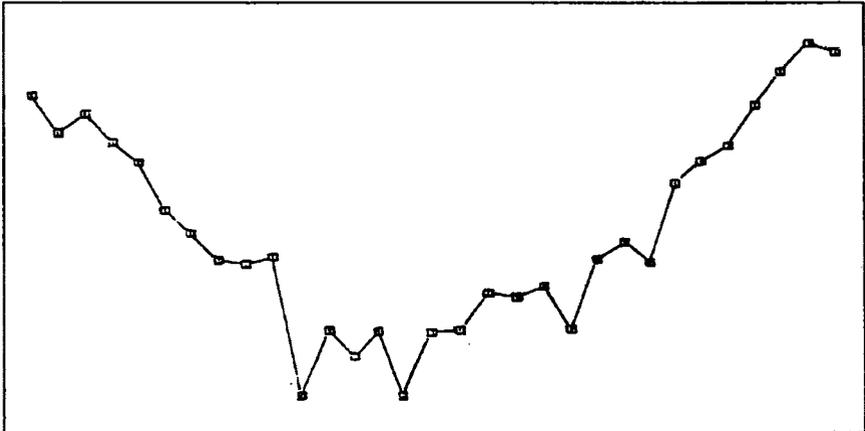


Figure 4
CAR for Bad-Good Companies



THE CONCEPT OF LIQUIDITY AND THE DEPENDENCY RATIO

*Ashit Kumar Sengupta**

This paper is an attempt to analyse a highly complex phenomenon like liquidity with both of its micro-economic and macro-economic implications. Efforts have been made to estimate the firm (industry) level liquidity based on the flow concept and to establish a linkage between the liquidity of the firm (industry) and that of the economy as a whole.

I

A highly complex phenomenon like liquidity has both micro-economic and macro-economic implications in any attempt for a precise estimation as well as meaningful analysis in order that the conceptualization in ex post and ex ante terms is possible (a). The debate on liquidity composition is, by and large, of macro-economic issues involving a possible weakness in the Quantity Theory link between the stock of money (b) and expenditure flows (c).

Liquidity, being a relative measure of estimate, is conceptualised in terms of three important factors (d), namely, (i) maturity, (ii) easiness, and (iii) financial strength, while the major part of these factors is associated with the ideas of stocks and flows of some financial assets, as opposed to real assets, which can be categorised as running assets, reserve assets, and investment assets (e). Importantly, the above factors in liquidity concept and the associated financial assets are all required to be analysed in both micro and macro level perspectives in any attempt at measuring liquidity. The relation between these two measures, particularly based on the above third concept can be abundantly clear if the public sector role and the asset-liability dichotomy of financial assets along with the so-called propensity to owe are usefully recognised (f).

II

As stated earlier (b, f), the operations of the firm or the industry or even the entirety of the economic community must have to perpetuate reasonable exercises in generating financial flows in order to achieve the respective desired results. The financial soundness of all these entities with short-term and long-term perspectives has always assumed a central place in the determination of an optimal economic behaviour. The concept of liquidity is, therefore, considered necessary for the economic activity in general, and for the firm or the industry in particular. An enquiry into the nature of the problem of liquidity as well as the causal aspects of the problem

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is worthwhile in understanding the real situation of the industrial finance of the organised sector. The nature of the products, the length of the production period, the production planning of the firm in respect of a number of mutually exclusive products (e.g., single vs. multi-product planning) are some of the areas to be investigated comprehensively. However, the management decisions on financial needs, and the climate of the financial market are likely to cause concern for the desirable financial management of the firm or the industry. It is always essential for a firm to be able to meet its maturing obligations. The conventional financial management analysis deals with such a problem of liquidity in terms of an index of relationship between two accounting figures. Such an analysis can serve in a way which is nothing more than tinkering with some 'stock figures' of the annual statements of affairs (g). It is hard to avoid the analysis of liquidity position in terms of cash flows as well as overall short-term obligations and claims of the firm during a financial period for which investigations as to financial strengths and weaknesses are required to be undertaken.

III

In the first two sections, the environment of liquidity and its operational dimension in respect of the firm (or industry) have been spelt out signifying thereby the importance of looking back at the magnitudes of the entire operational flows as revealed in the final accounts and the balance sheets for an economic period (h). The detailed accounting records at the end of a period can help one estimate two important magnitudes, namely, (i) the aggregate amount of cash generated from within the firm's own current operations, say, (a), and (ii) the aggregate amount of cash required by the firm to satisfy its current obligations, say, (b). A careful scrutiny of the final accounts and the balance sheet of a firm for any period consistently compared with those of the previous one is immensely helpful in the estimation of a significant ratio that may be coined as Dependency Ratio, say, α , where

$$\alpha = \left(1 - \frac{a}{b}\right) \quad (i)$$

This ratio implies the extent to which the firm is to depend on the external sources of funds (short-term and long-term) in order to meet its current obligations. This can be reckoned as an indirect index of liquidity, [e.g. $(1 - \alpha)$], and can easily be made useful for the explanation of the liquidity level of the industry from a carefully constructed aggregate industrial accounting balances. In such a dimension of operational records, the concept of both stocks and flows involved in the accounting figures can be utilised in a desirably competent way; and the inappropriate admixture of both flow and stock variables can be avoided. However, the intertemporal analysis of the dependency ratios may sufficiently reflect the firm's (industry's) continued levels of dependence on external sources to meet current financial needs. It also reflects the efficiency of its own financial performances, and the extent to which it can avoid, if necessary, exploiting the available sources of borrowed funds (i). Even the term structure development of the financial assets, (d) can be properly understood. When liquidity is considered as an agent of lubricating the cycles of the operational engine, dependency ratio, α , can be used to shed sufficient light to the

understanding of how this is achieved in the process of realisation of planned objectives.

Moreover, two other important relative measures of business performance, namely, profitability and productivity, computed on the basis of the same wealth of data, can be comparably analysed in a meaningful manner. Time-specific composition of these measures as an indicator of the desirable financial achievement of the firm is to be importantly recognised in the sense that the conceptualization of liquidity depending on the financial flows can be juxtaposed with such other indices of optimal business performance (k).

In the process of economic development, the emergence of a number of issues involved in the industrial activities may inspire meaningful investigation from different angles including those associated with the internal financial management functions of the industrial sector. Such an enquiry merits indepth studies in the complex inter-relations between productivity, profitability, and liquidity indices of the industrial sector for which conventional techniques of liquidity measures can be shelved in favour of a more comprehensive index of liquidity characterised by $(1 - \alpha)$, the so-called inverse of dependency ratio.

In addition, the concepts of liquidity and profitability can be proved to be the opposing ideas when ROI technique is adopted to explore the degree of profitability of the firm. In this case, it appears likely that a desirable balance between these two contradictory requirements signifies an important area of management research. A relevant postulate in this regard is that the problem of liquidity and that of the maintenance of a balance between the liquidity and the profitability of the firm (or industry) are the two important factors contributing to the financial non-viability that the industrial sector is beset with. It may so happen that an empirical study on this issue reveals no such contradictory requirements as envisaged in conventional concepts of financial management, and hence, the question of an optimal balance between them is unlikely to arise. The likelihood of the revelation of such a result depends upon how far logical precision is developed in defining the important measures like profitability and liquidity (m).

IV

All business entities are likely to tend always to carry on their operations relying virtually on two types of expectations, namely, (i) the expectation of financial gains, and (ii) the expectations of financial inflows from outside their own operational cycles, the latter having already been comparably pointed out in terms of the dependency ratio (g). In this way, all business activities, as are expressed in monetary dimension, have been looked at in terms of financial desideratum (n). In micro level finance, it may be assumed that a high degree of ability of the firm to run its own activities with the help of liquid assets generated from the operating cycles of its own is always important in the sense that its dependence on the sources outside the province of its own activities may be reduced, and, in turn, its financial strength characterised by a low level of α or a high level of liquidity is likely to create enormous opportunities for the organisational viability and continuity as well.

The aggregative study of the firms in terms of industrial finance is likely to offer similar results if the proposed technique for the conceptualization of liquidity is followed. A bold visualization of the possible movement of liquidity of the industrial scenario of any economy is that depending on the levels of productivity and inter-firm/inter-industry financial relations, having a wide range of counterbalancing or offsetting factors, in the midst of interdependent operating cycles, the overall dependency ratio of the industrial households may vary significantly only in inter-temporal magnitudes, and the wide variation of α for a particular economic period amongst different industrial categories is unlikely to appear barring few exceptions. It is interesting to note that the existence of a wide range of sources of funds over and above those for interindustry operational relations is likely to transform the entire financial phenomena into a highly 'liquid' community. The intersectoral range and resilience of the economy will then be expected to influence the dependency ratios, and in consequence, the operations of the financial intermediaries shall have an expansionary effect upon the financial scenario of the economy. It may, thus, be argued that the technique of Dependency Ratio is helpful in understanding the interrelation between the micro-level and the macro-level concepts of liquidity.

Notes

- (a) Ex post concepts involve statistical estimation of the measure of liquidity, while the ex ante concept deals mainly with the wealth holding and expenditure plans of any economic entity.
- (b) In this analysis, the role of money is important. Money is, by and large, a social relation; but the system of commodity production will show the different perspectives of the role of money (II). When non-money assets are used to finance spending they must first be exchanged for money balance. This intermediary role is important in any liquidity concept, and an abstract unit of value is implicitly defined by prices negotiated by buyers and sellers of commodities. Thus liabilities of some social acceptability may perform important payments functions (e.g., currency notes, bank deposits, bills and so on), and in this way the forms of money become diverse, and get themselves changed. In production, control of monetary assets are important in financing, although a long debate exists on the relation between money and economic activities. However, in recent times quantitative changes in the private issuance of monetary liabilities are considered to have central role to play in the theory of this relation. In this view production is financed, with an uncertain future profitability, by issuing liabilities. As economic expansion develops, expectations become more buoyant, and more liabilities are issued. Realisation of revenues and profits may not meet fully all the commitments, and thus, the quality of such liabilities gets eroded; and each firm tends towards thinner margins of equity in its financial position. Financial crisis in the forms of difficulties in meeting various commitments may occur, and may also affect the levels

of economic activity resulting from the qualitative effects of monetary liabilities.

- (c) In recent decades, changes in the practices of financial institutions have virtually affected the manifestations of liquidity phenomenon. It is seen that firms and individuals can sustain spending flows by reshuffling asset portfolios resulting in increased spending powers of the financial intermediaries. In the environment of low degree of public control, banks tend to maintain private sector lending flows by lending less to the public sector. Money supply being elastic, the velocity of circulation being volatile enough to offset, to some extent, any monetary restrictions, and the reality of the liquidity related weakness of a soft monetary policy — all these taken together will go to make one believe that the liquidity in modern economies does weaken the Quantity Theory.
- (d) This idea emanates from efforts at clarification on a maturity curve notionally constructed for all assets (including money) being considered to have particular maturity dates, taking zero life to maturity for money. A cumulative total of assets due to mature by future dates may be plotted. The higher level of the intercept and the relatively shallow gradient will indicate an increased liquidity level. This is true for both micro and macro level economic entities. Interest rate volatility and fluctuating market value of different assets can thus hardly inhibit the economy's capacity to sustain varying output levels. The intermediary role of money in exchanging non-money assets into liquid form facilitating financing for spendings is important in understanding the 'easiness' concept of liquidity, functionally known as M/Y (the ratio of the stock of money balance to the output flows). In a congenial situation the expansion and contraction of output are likely to be largely governed by the magnitude of this ratio, e.g., a Quantity Theory version. Doubts may here arise as to the determination of a universal definition of money. Moreover, the variation in the definition of money has virtually widened the difference between the Keynesian and the Chiago version of the demand for money. However, if different financial assets as categorised above have their close substitutes, the scope for portfolio adjustments by transactors will be enough for offsetting any 'potential effects of monetary stringency on spending plans.' The liquidity concept of so-called financial strength indicates about an overall position of the entire liquid funds of the economy as well as any economic entity. The recent preponderance of the activities of financial institutions in the money market signifies the importance of the condition on which they lend, and in particular, of the elasticity of credit supply in response to changes in demand for credit and in interest rates.
- (e) Hicksian classification of this sort is very similar to that by Keynes. The first one includes not only 'money' balances but also sundry debtors and undiscounted bills receivables. In the second category, short term claims

on any institution are added with money balances for precautionary motives. The last one includes all long-term claims over and above Keynesian speculative money balances. This categorisation is virtually based in the important concept of liquidity stated above.

- (f) The financial strength (F) of any economic unit can be identified by the aggregate of claims on the government (f_g) and private sector entities (f_p). Here, a simplified magnitude for certain effects on account of liabilities (f_l) of any economic unit, assumed as entirely involved in the private sector, may be introduced, while the income stream, both present and future, may instill economic units to develop a tendency to incur liabilities, called a propensity to owe (w) which depends on the size of the income stream (wY). Thus the equation stands as $F = f_g + f_p - f_l + wY$. Due to a simple assumption of equal and opposite reactions for f_p and f_l in the interest of aggregating for the whole economy, the above expression turns out to be $F = f_g + wY$ as the financial strength of the private sector. The Gurley & Shaw expression of outside money can be identified as f_g .
- (g) The conventional ratio techniques for the measurement of the firm's ability to meet its current obligation are likely to be roundly fallacious in the sense that the expression of any magnitude for a point in time can hardly give rent to the large measure of activities for a period of time. A quick measure of liquidity may not signify the quality of estimate since a proper process of estimates for all the comprising items of current assets and current liabilities may not be possible, let alone the case for changes in production, capital investment and other operating results. Moreover, the propensity to rely upon somewhat fixed relation (ratio) between the numerator and the denominator is likely to lead one nowhere. It is surprising to believe that the so-called quick ratio offers an idea about a 'margin of safety' based on some figures at the end of an entire period that experienced the vicissitudes of the operational flows of the economic entity. In this way, working capital as a simple difference between two 'stock' dimensions can easily be rejected as anything less than a meaningful measure of liquidity. Likewise, many other techniques, namely, 'circulating capital ratio', 'comparative liquidity model', 'liquidity index', and 'company liquidity and viability observation' are some of the attempts made in different studies in which 'flow-analysis' is accepted but the gamut of activities during an operational period involving liquidity sources and uses have not been sufficiently grasped.
- (h) The problem of liquidity arises out of the firm's inability to generate adequate internal funds out of current operations to satisfy different obligations. Inadequate self-generating capacity may virtually lead to the low levels of profitability and productivity as well, and in turn, the foundation for survival and long-term growth prospects are impaired. Thus, the dimension of viability in current operation of the firm is considered important.

- (i) Estimates of α merit a careful exposure to the backward and forward linkage of all the operations of the firm. For example, obligations of the previous years may be required to be met in the current year, any advance payment may be made, or outstanding debts may be realised and so on. Each and every item of current operations involving sales, sundry debtors, purchases, bills, sundry creditors, direct and overhead charges as well as other receipts and commitments ought to be carefully scrutinised from the final accounts and balance sheets in an intertemporal (inter period) context. It should be borne in mind that such an estimate may sometimes rest on somewhat arbitrary assumptions depending on the availability of financial information.
- (j) This technique is also helpful in the understanding of whether the firm's ability to maintain adequate liquidity levels has been continuous. Thus the requirement of adequacy and continuity of the liquidity strength of the firm derived from its own operations can be sufficiently estimated. Again, if α increases over time there is likely to be a diminution in the level of liquidity. The inverse relation between these two measures highlights a large number of other associated issues involved in the operational viability of the firm characterised by different dimensions in financial management.
- (k) On the foundation of a uniform analysis (based on flow estimates for highlighting the operational viability of a firm or industry, in terms of a comparative measure of liquidity, profitability and productivity should stand the whole gamut of the relevant studies in industrial finance.
- (l) Arijit Datta, a research scholar of the present author, has utilised this technique, and has explored interesting empirical results of many of the theoretical issues raised in this paper.
- (m) In this way, all business activities are attempted to be explained in the language of financial balances. Financial gains are thus identified with the amount of profit the firm is expecting to receive in future, and that it has already received, both acting as a prime mover to the continuity and viability of its existence. The second term is sufficiently explained elsewhere.
- (n) For a simplistic version of business activities the stress is given on financial aspects and in financial terms. It does not follow that in the ultimate analysis the objective of any economic operation, both in micro and macro level is of finance, and instead, it is of income, employment, and growth acting ultimately for the optimal level of allocation and distribution of resources as well as stabilization of the economy.

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THE DISTRIBUTIONAL PROPERTIES OF ACCOUNTING RATIOS AND STAGE OF DEVELOPMENT OF THE FIRM

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This paper investigates the effects of stage of development of the firm on the distributional properties of accounting ratios. Data were collected from the financial statements of small firms in the UK which achieved flotation, small firms which did not and for large, already quoted firms. The data were analysed to determine the extent of skewness, kurtosis and overall normality, as measured by the Kolmogorov-Smirnov test, at different stages of development of the firm. Square root and natural log transformations were applied to the data. The results suggest a relationship between stage of development and the distributional properties of accounting ratios and indicate appropriate transformations.

Introduction

Numerous studies have considered the statistical properties of accounting ratios (Horrigan, 1965; Bougen and Drury, 1980; Deakin, 1976; Frecka and Hopwood, 1983; Barnes, 1987; Ezzamel and Mar-Moliner, 1990). Whilst it has been suggested that the stage of development of the firm may affect the mean values of accounting ratios (Weston and Brigham, 1978), there have been few studies of the effects of stage of development of the firm on the statistical properties of accounting ratios. A notable exception has been the work carried out on the profitability of small and large firms which indicates that whilst conclusions vary in terms of relative profitability, there is general agreement that the variability of profits is greater for small firms than for large firms (Anderson, 1967; Bolton, 1971; Singh and Whittington, 1968; Storey, Keasey, Watson and Wyncarczyk, 1987; Tamari, 1980; Whittington, 1971). Of the stages of development, stock market quotation can be viewed as a watershed in terms of the financial development of the firm. There have been several studies of the effects of stock market quotation on financial characteristics (Hutchinson, Meric and Meric, 1988; Buckland, Davis and Yeomans, 1989) but they have not specifically considered the issue of the effect of quotation on statistical properties of accounting ratios.

The objective of this article is to provide empirical evidence, from the UK, on the effect of stock market quotation on the statistical properties of accounting ratios. The analysis focuses on small firms which acquire stock market quotation and

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compares the statistical properties of their accounting ratios with those of large, quoted firms and with those of other small firms which did not achieve quotation. The question addressed in the study is : how do the statistical properties of small firms accounting ratios change as they approach and go past quotation ?

Distributional Properties of Accounting Ratios

The statistical distribution of accounting ratios and the implications for statistical testing have been issues which have received much attention in accounting and finance literature. Horrigan (1965) considered that the most fundamental and perhaps most important question about the statistical nature of financial ratios concerned the type of distributions they exhibit. He pointed out that such information was rarely provided (at the time of his writing). Horrigan went on to report the results of his study of the financial ratios of thirty-two steel companies and twenty-four petroleum companies during the period 1948-57. He calculated seventeen ratios covering short-term liquidity, long-term solvency, capital turnover, profit margin, and return on investment. The pattern exhibited was one of approximate normality with a positive skew. Horrigan thought that the positive skewness was reasonable since most of the ratios have an effective lower limit of zero but an indefinite upper limit. The implication of this finding was, according to Horrigan, that financial ratios can be subjected to the usual parametrical statistical techniques, although logarithmic transformations of the ratios might be in order where the positive skew is extreme.

Bougen and Drury (1975) concluded that the UK empirical evidence for the distribution of financial ratios seemed to indicate non-normality caused by varying degrees of skewness and the existence of extreme outliers. Deakin (1976), using US data, also concluded the assumptions of normality of for financial accounting ratios would not be tenable. Deakin did point out that normality can be achieved in certain cases by transforming the data using square roots and natural logs. Bird and HcHugh (1977), using Australian data, concluded that the distribution of ratios within an industry can be approximated by a normal distribution in most cases. They argued that any skewness could be "predicted" by the rule that where an effective lower limit exists due to definitional or institutional reasons, the distribution tends to be positively skewed and when there is an effective upper limit, the distribution tends to be negatively skewed. This meant, for example, the current ratio is likely to be positively skewed.

Beedles and Simkowitz (1978) and Frecka and Hopwood (1983) considered the effect of extreme values, or outliers, on the distribution of accounting ratios. Beedles and Simkowitz in their note on skewness and data errors concluded that it was important to examine raw data to identify skewed series caused by extreme observations and that researchers should decide beforehand whether outliers should be included in their analyses. Frecka and Hopwood studied the effects of outliers on the cross-sectional distributional properties of financial ratios. Based on an analysis of eleven ratios of manufacturing firms used by Deakin (1976) they showed that findings of non-normality were often the result of outliers. They claimed that normality, or approximate normality, could be achieved for nearly all

distributions by using square root transformation. Their data indicated that the inclusion of outliers could produce dramatic distortions. They gave the example of how the inclusion of a current ratio value in excess of 100 : 1 onto a distribution within the range of 2 to 4 caused drastic increases in both the mean and variance of the distribution. They also showed a further example of the distribution of the quick assets to current liabilities ratio from which it could be seen that normality was least good for a raw data and improved with transformations and exclusion of outliers.

Whittington (1980) pointed out that the basic assumption of ratio analysis is that of proportionality. When, however, there is a constant term in a relationship between items included in a ratio, or where the relationship between them is not linear, Whittington argued that regression analysis provides a much more powerful and flexible means of estimating the functional relationship between a pair of variables. He went on to illustrate his argument by looking at the use of regression analysis instead of ratio analysis and examining the role of the constant term, rather than ratios as a method of deflation. His empirical tests compared three functional forms; proportionate, linear with a constant, and quadratic. The results suggested that the quadratic form was the most appropriate specification but this was subject to important qualifications which led Whittington to conclude that this results were illustrative rather than decisive.

According to Barnes (1982) violation of the assumption of proportionality, which requires a linear relationship and zero constant, accounts for non-normal distributions. He went on to examine the problems that non-normality cause when accounting ratios are used as inputs for statistical models that forecast failure. He did not regard non-normality to be a major problem in using regression analysis or multiple discriminant analysis because, whilst violation may bias the significance tests and error rates, univariate normality does not guarantee multivariate normality. Therefore, a lack of univariate normality does not necessarily violate any multivariate normality assumption.

Barnes also commented on the use of transformations of accounting ratios arguing that when univariate normality is required this may be achieved by subtracting an empirical estimate of the value of the constant term. The use of logarithmic or square root transformations merely confused the data further, according to Barnes, and may also affect the relative positions of the observations of the group (Eisenbeis, 1977). Where comparisons between individual firms are required, Barnes suggested that the best measure of abnormal performance is the residual terms which is obtained when the relationship is estimated by ordinary least squares regression.

Horrigan (1983) responded to the suggestion of the use of regression analysis in financial analyses, made by Whittington (1980) and Barnes (1982). He offered the counter argument that the statistical properties of the ratios themselves are more important than the statistical properties of the ratios' components. Horrigan's rationale was that financial ratios are used to predict other useful variables, such as bankruptcy, not their constituent parts. He felt that Barnes's suggestion that the

residual error term be used in analysis, rather than financial ratios, would be a step backward, not a "movement forward" since such an approach did not avoid any data size effect and the residual error term suffered extreme heteroscedasticity. Horrigan agreed that non-normality may not be a major problem in practice since numerous non-parametric statistical techniques are available for those ratios which are not normally distributed. He thought that the statistical distribution of ratios was still very important from a behavioural view since, depending on their shape, they could indicate the extent to which firms used ratios as targets.

McDonald and Morris (1984) provided empirical evidence on the debate between Barnes and Horrigan concerning the statistical validity of the ratio method in financial analysis. The purpose of their study was to present the ratio method in the analogous regression format, and to examine the empirical validity of ratio analysis through comparisons with alternative specifications. Their results indicated that the ratio method was superior to alternative specifications for their intra-industry sample. The simple ratio approach outperformed ordinary least squares regression with respect to residual variance and distributional tests. The inclusion of an intercept term into the proportionality model was not statistically supported. For a heterogeneous group of firms, there was little consistency in the ability of any single model to provide an appropriate specification. McDonald and Morris claimed that the findings of their study provided strong empirical support for simple ratio analysis in its traditional form, and that traditional ratio analysis appears to have more of an empirical justification than simple convenience.

Castagna, Matolcsy and Stevenson (1985) provided further evidence on the distribution and re-expression of financial ratios. They had a number of difficulties with the results of the work by Frecka and Hopwood (1983). They viewed a critical assumption of Frecka's and Hopwood's work as being that all financial ratios could be described by a Gamma distribution amenable to square root re-expression with removal of outliers. Castagna, Matolcsy and Stevenson believed that it is an empirical question to identify the appropriate data re-expression procedure for all ratios on an individual basis. The results of their empirical study indicated that there are no generalisable mathematical functions for re-expression which are applicable to all ratios. Some ratios need no re-expression whilst some benefit greatly from various types of re-expression and, or, trimming and winsorising. For some ratios, no re-expression appears to achieve normality and some ratios may have bimodal distributions. The main implication of their study was that explanatory data analysis should be applied before any hypothesis testing is conducted on financial ratios in order to obtain a "feel" for their distributional properties.

Ezzamel, Mar-Molinero and Beecher (1987) found that total debt to total assets and working capital to total assets appeared to be normally distributed but that current assets to current liabilities did not. They found no tendency for industry specific data to give better approximation to normality compared to a random sample. Transformed data exhibited less skewness than raw data with square root transformations producing better results than natural log transformations. In fact,

the natural log transformation tended to result in worse skewness for both the total debt to total asset ratio and working capital to total asset ratio. So (1987) found that whilst outliers were a cause of non-normality, they were not the only source of non-normality. Non-normality persisted after outliers were removed. She concluded that this finding implied that the basic assumption of ratio analysis of proportionality may not hold for most ratios. Ezzamel and Mar-Molinero (1990) extended their previous work by increasing the number of ratios considered and considering kurtosis as well as skewness and an intertemporal analysis. They found that whilst working capital to total assets and total debt to total assets appear normal, as did earnings before interest and taxation to total assets, the other new ratios were not. They found that the distributional forms of ratios persisted over time. They also concluded that whilst there were some inter-industry variations the distributional forms of individual ratios were generally maintained across industries.

Data and Tests

The experimental group of small firms which achieved stock market quotation was drawn from those firms which achieved quotation on the UK USM in 1980-83. One hundred and eighty-five firms were newly quoted on the USM during the period. It was decided to eliminate those firms with unusual financial characteristics, namely, mining and oil exploration, financial services, property and construction and subsidiaries of overseas companies. These companies accounted for fifty-eight of the USM quotations leaving one hundred and twenty-seven firms. The definition of a small firm was one with less than one million pounds book value of assets, five years prior to flotation. Since the research design involved comparisons five years prior and five years post flotation, only those firms in existence at these stages could be included. Twenty-eight firms satisfied the size and data requirements.

The twenty-eight experimental firms were matched with twenty-eight small firms which did not achieve quotation and twenty-eight large, quoted firms. The matching was done on the basis of industry, location and age. The latter was controlled for as a consequence of the findings of Storey, Keasey, Watson and Wyncarczyk (1987) which indicated age as an important explanatory variable in small firm studies.

Data were collected for each of the eighty-four (twenty-eight experimental and the two control groups of twenty-eight) for three periods namely at the time of quotation of the small quoted firms and five years before and five years after. This resulted in nine groups of data, namely the small firms which achieved quotation for the year of quotation and five years before and after, and for small firms which did not achieve quotation and for large, quoted firms for the corresponding three periods. The data comprised sixteen financial characteristics drawn from balance sheet and income statement items from annual return available on microfiches at Companies' House, London. The sixteen items were: cash (CASH), stock and work-in-progress (SWP), debtor (DRS), total current assets (TCA), total current liabilities (TCL), creditors (CRS), overdraft and short-term loans (OSL), owners' equity (OE), depreciation (DEP), directors' emoluments (DIR), interest (INT), earnings before tax (EBT), tax (TAX), dividends (DIV), net working capital (NWC)

and long-term debt (LTD). All the items were expressed as a percentage of total assets. Data were extracted for the experimental group for the year of quotation, the fifth year prior to quotation and the fifth year after quotation. The figures for the experimental group were matched with those for the control groups for the same calendar year. The period from which data were collected was 1975 to 1988.

Measures of skewness and kurtosis were calculated for the sixteen accounting ratios for the nine groups. The Komogorov Smirnov test of normality was applied to the data for the nine groups. In the case of the Kamogorov Smirnov test for normality data were also subject to square root and natural logarithm transformations. The purpose of this was to see the extent to which normality was improved by applying these transformations. Rankings of the extent of the skewness, kurtosis and overall normality were calculated for the individual ratios and for the nine groups.

Results

Tables 1 to 4 present the results of the analyses. From Table 1 it can be seen that the ratios tend to be positively skewed and positively kurtotic. This means that they typically are more grouped around the mean or "peaked" and have a longer right hand tail than would be expected for a normal distribution.

Table 1 : Statistical Properties : All Groups

Ratio	Skewness		Kurtosis	
	+	(-)	+	(-)
CASH	9	0	9	0
SWP	8	1	2	7
DRS	8	1	6	3
TCA	1	8	3	6
TCL	6	3	4	5
CRS	9	0	6	3
OSL	9	0	6	3
OE	3	6	3	6
DEP	9	0	8	1
DIR	9	0	9	0
INT	9	0	7	2
EBT	4	5	6	3
TAX	6	3	6	3
DIV	9	0	8	1
NWC	4	5	8	1
LTD	9	0	5	4

Table 2 indicates that ratios vary considerably in terms of normality. Some ratios such as net working capital and total current assets and, to a lesser extent, debtors, total current liabilities and owners equity appear to be reasonably normally distributed. Others such as cash, depreciation, directors' remuneration, interest, overdraft and short-term loans and dividends appeared to be non-normally distributed. The effect of transformations is mixed. It does not appear possible to generalise to the extent of saying that either the square root or logarithm transformation improves the distributional properties of accounting ratios. In some cases the transformation makes the situation worse and in other cases one transformation may be preferable to another. In some cases transformations are unnecessary as the ratios are reasonably normally distributed and are not improved by either transformation. Debtors, total current assets, total current liabilities and net working capital appear to fall into this group. Stock and work-in-progress, creditors, owners' equity, earnings before tax, tax and long-term debt appear to be improved with a square root transformation. Cash, overdrafts and short-term loans, depreciation, directors' remuneration, interest, and dividends appear to benefit from a log transformation. It is interesting to note that the log transformation works best on the least normally distributed ratios. This is explainable in terms of its being a more radical transformation than the square root transformation and, therefore, the log transformation may be more appropriate in cases of extreme departure from normality which in turn is likely to be due to the presence of extreme outliers.

EXHIBIT 2 : Effects of Transformations on Overall Normality

	(A) Untransformed		(B) Square Root		(C) Logarithm		Best
	Yes	No	Yes	No	Yes	No	
CASH	0	9	2	7	6	3	C
SWP	5	4	9	0	2	7	B
DRS	7	2	7	2	7	2	A
TCA	8	1	5	4	2	7	A
TCL	7	2	8	1	7	2	B
CRS	5	4	9	0	7	2	B
OSL	2	7	2	7	8	1	C
OE	7	2	9	0	6	3	B
DEP	1	8	6	3	7	2	C
DIR	1	8	5	4	8	1	C
INT	1	7	5	4	6	3	C
EBT	4	6	7	2	6	3	B
TAX	3	6	7	2	6	3	B
DIV	2	7	3	6	9	0	C
NWC	8	1	9	0	4	5	B
LTD	3	6	7	2	3	6	B

Yes = normal at 5% level for Kolmogorov-Smirnov test.

The results for Tables 1 and 2 are broadly consistent with previous studies which indicate that accounting ratios are positively skewed, positively kurtotic and vary in normality. The results are also consistent with the findings that there is no one transformation which improves the distributional properties of all accounting ratios.

Tale 3 : Changes in Statistical Properties of Small Floated Firms

	Skewness			Kurtosis			K - S Test		
	F - 5	F	F + 5	F - 5	F	F + 5	F - 5	F	F + 5
CASH	2	3	1	2	3	1	2	3	1
SWP	2	3	1	1	2	3	3	1	2
DRS	2	1	3	1	2	3	2	1	3
TCA	1	2	3	3	1	2	2	1	3
TCL	3	1	2	3	2	1	3	1	2
CRS	2	1	3	3	2	1	1	2	3
OSL	3	1	2	3	1	2	3	2	1
OE	3	2	1	3	2	1	3	1	2
DEP	2	1	3	2	1	3	2	1	3
DIR	3	2	1	3	2	1	3	1	1
INT	2	1	3	1	2	3	3	1	2
EBT	3	1	2	3	2	1	2	1	3
TAX	3	2	1	2	3	1	3	2	1
DIV	3	2	1	3	1	2	3	2	1
NWC	3	1	2	3	1	2	3	1	2
LTD	2	1	3	2	1	3	1	2	3
Sum of Ranks	39	25	32	38	29	30	39	23	33
Overall Rank	3	1	2	3	1	2	3	1	2

1 = Least skewed/kurtotic or most normal K-S Test.

Tale 4 : Statistical Properties : Group Rank All Ratios

	Skewness			Kurtosis			K-S Test		
	F - 5	F	F + 5	F - 4	F	F + 5	F - 5	F	F + 5
Small unquoted	2	2	3	3	3	3	1	1	3
Small quoted	3	1	2	2	1	1	3	3	2
Large quoted	1	3	1	1	2	2	1	1	1

Tables 3 and 4 extend previous studies by specifically considering the effect of stock market quotation on the statistical properties of small firms' accounting ratios. Table 3 shows that the accounting ratios of small firms which achieve quotation are least skewed, least kurtotic and most normal at the time of quotation. In order to check that this improvement in normality at flotation was not due to a generally improvement in the normality of accounting ratios for the period during which the small firms achieved quotation, comparisons were made with other small firms which did not achieve quotation and with large, quoted firms for the same periods. The results of this analysis are presented in Table 4. From Table 4 it can be seen that large, quoted firms generally rank highest in terms of normality and attributes of normality. It is also clear, that the ranking of small firms which achieve stock market quotation improves compared to those which do not, at and after quotation. In the case of skewness and kurtosis this improvement results in small firms which achieve quotation being ranked as least skewed and least kurtotic of the three groups at the time of quotation for the small quoted firms.

Conclusion

The analysis of the effects of stock market flotation on the statistical properties of accounting ratios suggests that a change does take place with flotation. Consistent with previous research which indicates that small firms have more variable financial characteristics than large firms, this study found that small firms tend to have less normally distributed ratios than large, quoted firms. The accounting ratios of large, quoted firms are also generally less skewed and less kurtotic than those for small firms. In addition, however, it was found that small firms which achieve stock market flotation move from a situation from having less normally distributed ratios than large quoted firms to having ratios more in line with those of large, quoted firms. The implication of these results is that not only do accounting ratios vary in normality from ratio to ratio but that the normality of ratios appears to be affected by stage of development of the firm. In addition, the results indicate that the optimum transformation for accounting ratios to improve their normality depends on the extent of non-normality for individual ratios with the more radical transformation, such as a log transformation, being required for the most non-normal ratios whereas a less radical transformation, such as a square root transformation, is more appropriate for less non-normally distributed ratios.

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VENTURE CAPITAL FINANCING : THE OPTIMISATION ISSUE

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Debashis Mazumdar†

In venture capital financing risks are taken in expectation of matching returns. The venture capitalist tries to maximise profit and minimise risk through 'diversification.' The venture capitalist strives for an optimal combination of high risk and low risk ventures. This optimization behaviour of the venture capitalist has been explained in this paper with the help of a model.

1. Introduction

A financial market equips itself with a variety of financing techniques and instruments to support the financial needs of the existing business enterprises and also to provide funds to foster the creation and development of newer ones. New instruments are innovated as the business horizon expands and the traditional financing schemes prove themselves inadequate to cope with the new situation. This is particularly so when a need for financing of any special type arises. Venture capital (VC) is one such new financing scheme, the emergence of which became necessary to help a class of new entrepreneurs who had enough of new ideas but little of financial resources to translate ideas into realities. Traditional financing schemes do not come much to the aid to these new entrepreneurs as their ventures carry significant dimension of risk because of the presence of one or more of the risk elements like unproven technology, entrepreneurship, management or market. VC may, therefore, be said to be a capital used to finance new proposals/ideas involving new technology or products which are risky but at the same time have the potentials of high returns.

The venture capitalist, as viewed from the definition, takes the risk only for a commensurate reward. He works on the simple logic that all ventures he supports will not fail and his return even from a few successful ones will be large enough to offset his losses on other ventures and therefore on balance, he will make some reasonable profit.

2. Object of this paper

VC financing is synonymous with risk taking. Nevertheless, the venture capitalist takes the risk only to look for a matching return. He does not gamble. He decides to invest in a venture only after a judicious appraisal of risk and return associated

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with that venture and also after a careful consideration of the effect of such investments on his investment portfolio. In other words, portfolio risk and return is also measured along with the measurement of risk and return of each prospective investment. Naturally, therefore, the venture capitalist will endeavour to maximise his profit and minimise risk by optimizing his investment portfolio. Keeping this in view, this paper intends to develop a model explaining the optimization behaviour of the venture capitalist.

3. Forms of venture capital

A clear identification of the different forms of VC financing is necessary as the risk of financing is a variable one relating to the form or nature of financing. VC financing may take many forms with distinctive type of financing for each of the four stages of development of a project beginning with the stage of idea formulation and implementation followed by commercial production, marketing, and finally, large scale investment for continuing the project's production and marketing when its products have already been established in the market. Based on these four stages of development, venture capital financing may take any or all of the forms as under (Sadak 1990) :-

- (a) **Seed finance** : This is the earliest stage of financing entailing highest risk. At this stage, venture capitalists provide finance for translating an idea into a business proposition. Financing at this stage involves risky decision for venture capitalist since at the end the whole attempt may turn out to be a complete failure.
- (b) **Start-up finance** : At this stage, financial support is extended to the entrepreneur for undertaking production. The risk of financing here is less than that in seed financing. However, in absolute term the risk may also be higher as the quantum of investment involved is larger.
- (c) **Beginners finance** : When the firm has the product but marketing is at an embryonic level and the firm is operating at a loss or at best earning a meagre profit, an additional round of financing to develop the marketing infrastructure is made to reach the consumers.
- (d) **Establishment finance** : At this stage, the firm is established in the market and the turnover is sure to increase at a rapid pace. Yet, it needs further financing for carrying out expansion and diversification so that it can reap economies of large scale and attain stability.

VC financing may be a comprehensive or a total financing affair covering all the stages of financing as described above. However, it would be wrong to presume that to qualify an investment as VC, it needs to be made at the very first stage or at every stage of development of the enterprise. It is principally the degree of risk a venture capitalist is ready to assume that determines at what stage of development of a project he is prepared to invest. Risk is associated with every stage of financing however cautiously or rigorously the venture capitalist examines or evaluates the potentials of the venturer and his product, though the degree of risk is not equal in

all the stages of financing. The risk declines at each subsequent stage of development of the project. Besides, all the ventures financed by the venture capitalist are not equally risky. Some ventures entail relatively higher risk and some are of relatively lower risk.

With the above background, we now develop a model explaining the optimization behaviour of the venture capitalist in the following section.

4. The optimisation behaviour

The effort of the venture capitalist, like any rational investor, is to reduce his risk through "diversification" i.e., investing his available fund in both relatively high risk (HRV) and relatively low risk (LRV) ventures and in the process he strives for a optimal combination of HRV & LRV. This optimisation behaviour of the venture capitalist had been explained in our paper with the help of a simple model which is practically an extended form of the Tobin's model on investor's behaviour (Tobin 1958).

The basic assumptions of the present model are as follows :-

- (i) The utility function of the venture capitalist is a function of his risk and expected return.
- (ii) The risk of VC financing varies according to the type of venture and the stages of financing as already stated.
- (iii) The venture capitalist has the required fund for "diversification" given the scale of his operation.
- (iv) The venture capitalist will find sufficient scope for disinvestment at the opportune moment.
- (v) VC financing may be in any of the following forms or a combination thereof : equity, bond etc., Let the amount of his investment in HRV & LRV be I_H and I_L respectively. After a certain period, his expected return from HRV & LRV investments be denoted by $E(x_1)$ and $E(x_2)$ respectively.
- (vi) The probability distribution of the expected returns from such risky investments follows normal distribution. Hence, $E(x_1) = \mu_1 =$ Mean expected return from HRV investment

and

$$E(x_2) = \mu_2 = \text{mean expected return from LRV investment,}$$

where $\mu_1 > \mu_2$ and their values are fixed by the probability distribution.

- (vii) Let the four different stages of VC financing starting with seed finance etc., as stated earlier, be denoted by S_1, S_2, S_3 & S_4 respectively. Let the VC financing at S_1 and S_2 stages be more risky than the same at S_3 and S_4 stages. If we denote HRV & LRV as T_1 and T_2 types of ventures then the possible combinations of (T_1, T_2) would generate different degree of such risk elements as shown in table 1 :

Table 1
Degree of risk in relation to stages of finance and type of venture

Stages of Finance				
Type of Venture	S ₁	S ₂	S ₃	S ₄
T ₁	HH	HH	HL	HL
T ₂	LH	LH	LL	LL

(H = High Risk, L = Low Risk)

In Table 1, HH denotes investment in risky seed finance in a HRV etc.

Let B₁ = Number of HRV investment, B₂ = Number of LRV investment.

Let the expected total return from B₁ be

$$R_1 = B_1 \cdot E(x_1) = B_1 \cdot \mu_1 \dots\dots\dots (1)$$

Similarly, $R_2 = B_2 \cdot E(x_2) = B_2 \cdot \mu_2 \dots\dots\dots (2)$

Let the normal rate of return that the venture capitalist would expect from the same investment in a zero-risk venture, be r. So $\mu \geq r$, otherwise, he would not get any incentive for involving him in such risky ventures. Thus, $(\mu_i - r) = \mu_{io}$ may be regarded as mean expected net return and $(x_i - r) = x_{io}$ as risk-premium or net return. Sadak

The risk involved in VC investment can be measured by the expected deviation of such risk premiums from the mean expected net return. Thus, in case of HRV and LRV,

$$\text{Var}(x_1) = E \left(x_1^0 - \mu_1^0 \right)^2 = \sigma x_1^2 \quad \therefore \text{sd}(x_1) = \sigma x_1$$

$$\text{and Var}(x_2) = E \left(x_2^0 - \mu_2^0 \right)^2 = \sigma x_2^2 \quad \therefore \text{sd}(x_2) = \sigma x_2$$

where the values of σx_1 and σx_2 are fixed by the probability distribution and $\sigma x_1 > \sigma x_2$.

Thus the total risk involved in B₁ and B₂ number of HRV and LRV investments would be :

$$\sigma_{T_1} = B_1 \cdot \sigma_{x_1} \quad \text{or} \quad B_1 = \frac{\sigma_{T_1}}{\sigma_{x_1}} \dots\dots\dots(3)$$

$$\text{and } \sigma_{T_2} = B_2 \cdot \sigma_{x_2} \quad \text{or} \quad B_2 = \frac{\sigma_{T_2}}{\sigma_{x_2}} \dots\dots\dots(4)$$

Here, equations (3) & (4) indicate the total number of VC investment (B₁ and B₂) needed to attain any given level of risk (σ_{T_1} and σ_{T_2}). Putting the values of B₁ and B₂ in equation (1) & (2), we get—

$$R_1 = \frac{\sigma_{T_1}}{\sigma_{x_1}} \cdot \mu_1 = \sigma_{T_1} \left(\frac{\mu_1}{\sigma_{x_1}} \right) \dots\dots\dots(5)$$

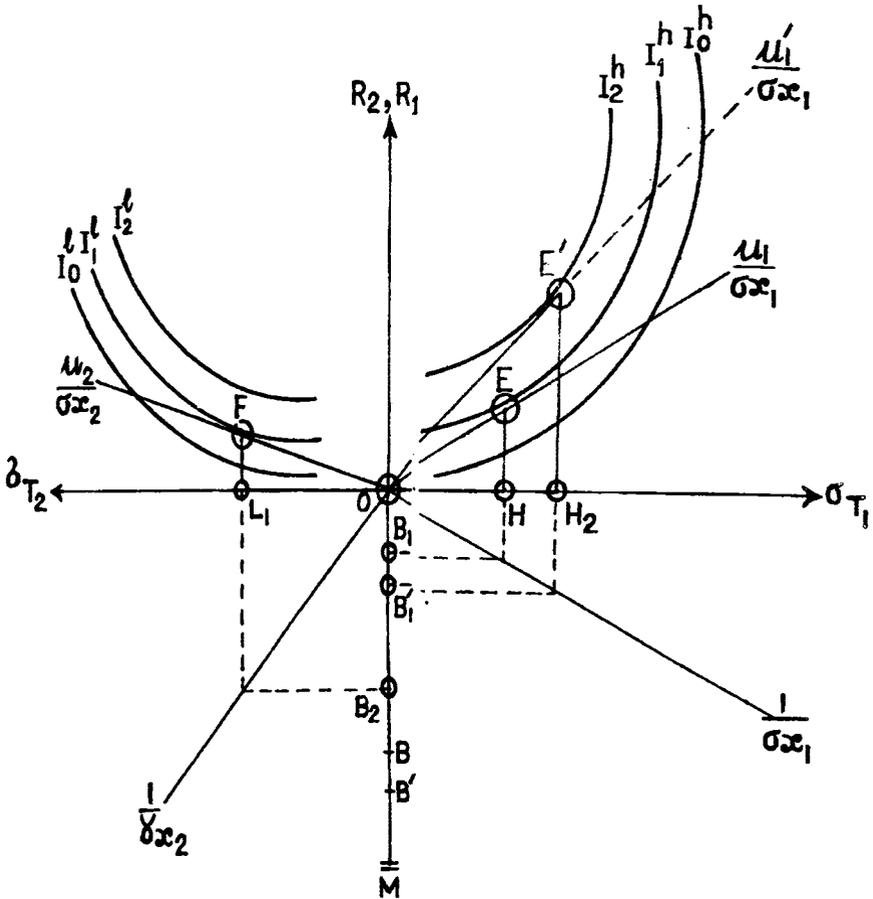
and $R_2 = \frac{\sigma_{T_2}}{\sigma_{x_2}} \cdot \mu_2 = \sigma_{T_2} \left(\frac{\mu_2}{\sigma_{x_2}} \right) \dots\dots\dots(6)$

In equations (5) & (6), given the values of $\mu_1, \mu_2, \sigma_{x_1}$ and σ_{x_2} at any given time, there remains a positive relation between the risk and return. Here $\mu_1 > \mu_2$ but $\sigma_{x_1} > \sigma_{x_2}$, thus $\left(\frac{\mu_1}{\sigma_{x_1}} \right) \geq \left(\frac{\mu_2}{\sigma_{x_2}} \right)$ depending upon the relative magnitudes of $\mu_1, \mu_2, \sigma_{x_1}$ and σ_{x_2} .

Let the total investible fund in the hand of the venture capitalist be \bar{M} .

$$\therefore I_H + I_L \leq \bar{M}$$

Figure 1



The utility of the venture capitalist depends on (R_1, σ_{T_1}) in case of HRV and (R_2, σ_{T_2}) in case of LRV and his indifference curve becomes convex to the origin because he demands increasing rate of return with every increment in risk. The indifference curve showing different combinations of (R_1, σ_{T_1}) would be more steep than the indifference curve showing (R_2, σ_{T_2}) combinations because the demand for increasing increments in return with rising risk will be more in the former case than the latter.

The optimising behaviour of the venture capitalist under such uncertainty is shown in Fig. I. The equilibrium points E and F determine the equilibrium values of (R_1, σ_{T_1}) and (R_2, σ_{T_2}) respectively. After getting the equilibrium values of σ_{T_1} and σ_{T_2} , we can determine the equilibrium values of B_1 and B_2 from equations (3) & (4) as shown in the 3rd & 4th quadrants of Fig. I. As $\sigma_{x_1} > \sigma_{x_2}$, so $\frac{1}{\sigma_{x_1}} < \frac{1}{\sigma_{x_2}}$.

It is observed that the equilibrium number of HRV and LRV investments would be OB_1 and OB_2 respectively ($OB = OB_1 + OB_2$). So, the money holding is \overline{BM} . If there is any change in $\left(\frac{\mu_1}{\sigma_{x_1}}\right)$ or $\left(\frac{\mu_2}{\sigma_{x_2}}\right)$ then the equilibrium combination of (B_1, B_2) would also change. (Tobin) (e.g. $OB' = OB'_1 + OB'_2$).

Notes

- (1) The cost of borrowing capital may vary according to the pattern of port-folio diversification of the venture capitalist.
- (2) σ_{x_1} or σ_{x_2} may rise due to a rise in the cost of borrowing capital or any change in the tax rate on capital gains.

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VALUATION OF ORGANIZATIONAL HUMAN RESOURCE : A CHALLENGE TO THE ACCOUNTANTS

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In the present paper an attempt has been made to evaluate the effectiveness of different human resource (HR) valuation models using seven-point criteria. Subsequently a relative HR value measure over a ten-year period of an organization in iron and steel industry has been proposed based on its total performance. Such a value measure is expected to facilitate the human resource management process in an organization.

1. Introduction

Human resource is the most fundamental of all available resources to an economy or an organization. In fact, it is the only self-generating and ever-evolving productivity factor that utilizes all other physical and financial resources of an organization. Attempt to value such a resource started off at R. G. Barry Corporation in the year 1967 with great fanfare. But the active interest to put value tag to HR has gradually declined over the years. However, still the question remains how to value the HR of an organization, particularly, as we are moving towards the twenty first century in the midst of rapid technological advances and acute competition. Perhaps the corporation world would be more and more eager to know whether their HR has been appreciating or depreciating over time.

If we distill the available models in the area of human resource accounting (HRA), we find them to be diverse in nature : some have originated from the traditional accounting practices of cost as a value surrogate but may be far away from the economic value of HR; some models are based on sound economic principles while a few others propose to convert psycho-social test results into dollar analog but they all may be difficult to implement in practice. A few try to value HR on an individual basis which may be really difficult unlike in the case of group basis of valuation, so also the depreciating value of individual on record may thwart the development process of the HR itself. Some models are developed with an eye on external reporting but may be far from being used as a planning and control aid to

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the management. In the midst of such a diversity, the relative effectiveness of the different available HRA models may be judged on the criteria like :

- * Conformity with the traditional accounting practices
- * As an aid to HR value accounting
- * Ease of implementation
- * As planning and control aid to the management
- * As HR development aid
- * Impact on organizational HR
- * Usefulness to the external agencies.

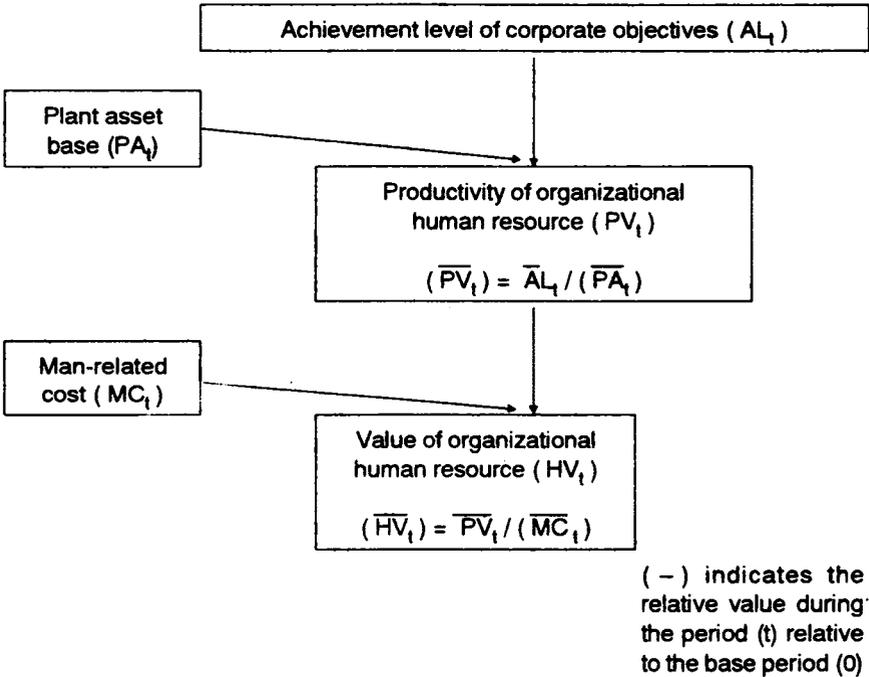
The extent of fulfilment of different criteria by the available models and the various degrees of inadequacies inherent in them (Kolay, 1991) is reflected in Annexure 1. To surpass such difficulties and to evolve a better or consensus approach towards valuation of HR, an attempt has been made in this paper to value the organizational HR as a whole based on performance measure, fulfilling the aforesaid criteria to the maximum possible extent.

2. Conceptual Framework

- * An organization may be conceptualized as a system comprising man-machine resource base with its human mass at the nucleus. The performance of the man-machine system reflects the achievement of nonetheless the man i.e. HR asset base.
- * The HR asset base develops and utilizes the other asset base i.e. the plant and other infrastructures, herein termed as the plant base, to convert the inputs to outputs to add value and achieve the corporate profitability objective from the shareholders' point of view i.e. profitability performance along with favourable or adverse impact on the areas of concern of other interest groups viz. the consumers, the national economy and the society i.e. 'other than profitability performance.' The 'profitability performance' and 'other than profitability performance' together may be considered to reflect the total performance of an organization.
- * The total performance of an organization in relation to the dimension and quality of the plant base reflects the productivity of the organizational HR.
- * An organization adopts different man-management strategies to have the necessary HR asset base with appropriate levels of remuneration, welfare provisions, training and development opportunities to sustain, improve and maintain the quality of HR themselves to enable them to improve the productivity of organizational HR.
- * The productivity of HR when viewed in relation to the man-related cost incurred on them through adoption of different man-management

strategies would reflect the surrogate value of the organizational HR (Figure-1).

Figure – 1
Value of Organizational Human Resource



3. Concept of HR value measure Implemented

The proposed concept of HR value measure has been implemented in an iron and steel plant to study its HR value for a ten years period (1978-79 to 1987-88) in relation to the chosen base period (1977-78) using the following steps.

The total performance of the organization has been assessed taking into account its profitability performance in the area of concern of the shareholders' along with 'other than profitability performance' i.e., the impact on the different areas of concern relevant to other interest groups like the consumers, the national economy and the society. To reflect the profitability performance the extent of value added has been considered in relation to the average network deployed by the organization. To assess 'other than profitability performance' suitable surrogate measures, as and when necessary, have been used as presented in Annexure 2.

Equal importance has been attached to the profitability and 'other than profitability performance' so also to the contribution of the different other interest groups and the different areas of concern within each interest group while assessing the total performance of the organization.

The plant base refers to the plant and industrial building portion of the fixed asset. The inflation adjusted relevant gross block has been considered to reflect the plant base. A lag period of one year has been considered relevant between the commissioning of the plant and its normal level of operations leading to the development of plant base.

The productivity of the organizational HR during different periods relative to base period has been assessed based on the total performance in relation to the plant base deployed by the organization.

The man-related cost has been considered to include the cost elements like :

- * manpower servicing cost i.e., salaries and wages
- * manpower development cost i.e., training and development expenditure
- * manpower maintenance cost in the form of different welfare measures.

The man related cost has been considered to include the inflation adjusted above cost elements on effective annual cost principles.

The value of the organizational HR has been assessed based on the productivity of the HR in relation to the man-related cost.

4. Results

The total performance of the organization under study during the ten years period relative to the chosen base period is presented in Table 1.

From Table 1 it is evident that the profitability performance has been improved with an average for the ten year period being 33% higher. It has been mainly due to higher rate of price revisions by the government from time to time based on the industry average cost compared to relevant cost inflation, improvement in quality of saleable steel outputs and higher level of cost effectiveness, to some extent offset due to lower contribution as a result of higher proportion of semis in finished steel and higher conversion charges paid to the rerollers.

As regards 'other than profitability performance,' the impact on the consumers has been adverse initially due to restricted level of production on account of non-availability of coking coal from the government owned collieries and the sanctioned power, however, favourable thereafter with improved quality and cost effectiveness with an average for the ten year period being 10% favourable as compared to the base period.

As regards the impact on the areas of concern of the national economy, it reflects a varying trend — 12% relatively adverse to 15% favourable with relative average impact being marginally favourable by 1%. Insignificant efforts towards technology development with more and more imports of capital equipments and coking coal have created the adverse impact. Quality and cost effectiveness though improved, however, have not been at all competitive in the international market. However, lower coke consumption rate due to use of imported low ash coking coal,

Table 1**Total performance of organization**

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	Average for the ten year period
A. Profitability performance												
Net value added on average networth index	1.00	1.16	1.22	1.32	1.51	1.32	1.37	1.72	1.41	1.14	1.10	1.33
B. Other than profitability performance												
<i>B.1 Impact on areas of concern of the consumers</i>												
Output index	1.00	0.86	0.82	0.83	0.91	0.98	0.99	1.08	1.13	1.24	1.27	1.01
Quality index	1.00	1.10	1.16	1.11	1.31	1.22	1.27	1.38	1.28	1.27	1.33	1.24
Cost effectiveness index	1.00	1.00	0.98	1.01	1.11	1.01	1.01	1.11	1.11	1.08	1.12	1.05
Impact on the consumers index	1.00	0.99	0.99	0.98	1.11	1.07	1.09	1.19	1.17	1.20	1.24	1.10
<i>B.2 Impact on areas of concern of the national economy</i>												
Indigenous technology development and utilization index	1.00	1.04	1.29	1.27	1.16	1.00	0.91	0.93	0.54	0.69	0.63	0.95
Foreign exchange earning rate index	1.00	0.36	0.08	0.22	0.08	0.12	0.02	0.14	0.19	0.04	0.22	0.15
Conservation of natural resources index	1.00	1.03	1.00	0.99	0.97	0.96	1.00	1.05	1.12	1.14	1.07	1.03

Table 1 (Contd.)

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	Average for the ten year period.
Conservation of scarce national resources index	1.00	1.09	1.39	1.76	1.39	1.18	1.22	1.32	1.39	1.33	1.26	1.33
Facilitation of industrial growth index	1.00	0.87	0.84	0.89	1.00	1.28	1.25	2.21	2.51	2.54	2.46	1.59
Impact on the national economy index	1.00	0.88	0.92	1.03	0.92	0.91	0.88	1.13	1.15	1.15	1.13	1.01
<i>B.3. Impact on areas of concern of the society</i>												
Direct employment generation index	1.00	1.01	1.04	1.06	1.11	1.09	1.08	1.06	1.16	1.16	1.16	1.09
Indirect employment generation index	1.00	1.00	1.12	1.07	1.27	1.02	0.95	0.97	1.06	1.07	1.08	1.06
Environment protection index	1.00	1.02	1.06	1.08	1.13	1.19	1.28	1.36	1.41	1.47	1.65	1.27
Community development and social welfare index	1.00	1.01	1.04	1.07	1.08	1.12	1.13	1.19	1.21	1.24	1.25	1.13
Impact on the society index	1.00	1.01	1.07	1.07	1.15	1.11	1.11	1.15	1.21	1.24	1.29	1.14
<i>B. 4. Total impact index (i.e. other than profitability performance index)</i>	1.00	0.96	0.99	1.04	1.08	1.04	1.03	1.22	1.23	1.23	1.25	1.11
C. Total performance index	1.00	1.06	1.11	1.18	1.30	1.18	1.20	1.47	1.32	1.19	1.18	1.22

Table 2**Value of the human resource**

	1977-78 (base year)	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	Average for the ten year period
Total performance index	1.00	1.06	1.11	1.18	1.30	1.18	1.20	1.47	1.32	1.19	1.18	1.22
Plant base index	100.00	102.05	105.34	107.42	109.16	113.00	122.32	128.85	132.33	138.08	146.09	120.54
Human resource productivity index	1.00	1.04	1.05	1.10	1.19	1.04	0.98	1.14	1.00	0.86	0.81	1.02
Man related cost index	100.00	104.00	109.00	110.00	115.00	117.00	124.00	127.00	136.00	140.00	151.00	123.30
Human resource value index	1.00	1.00	0.96	1.00	1.03	0.98	0.79	0.90	0.74	0.61	0.54	0.85

better utilization of iron ore fines through sinter and improved working capital management have caused the favourable impact.

As regards the impact on the areas of concern of the society, the level of direct employment has been initially increased to meet the modernization programme of the organization, then declined with adoption of 'no new recruit policy,' thereafter increased suddenly due to acquisition of other manufacturing units. Consequent to the level of direct employment, the level of indirect employment generation has been less than 3% on an average due to lower level of contribution of levies and taxes to the national exchequer. However, total impact on the society has been improved, with the relative average being 14% favourable due to more effective pollution control and launching of a number of community development and social welfare projects over the period.

Based on the impact on the three areas of concern i.e., the consumers, the national economy and the society, the 'other than profitability performance' reflects on the whole an improving trend with the relative average being 14% favourable.

Taking into account the profitability and 'other than profitability performance,' the total performance of the organization has been, though varying, improved over the years with the relative average being 22% higher.

When such a level of improved total performance has been viewed in relation to the increased level of the plant base deployed (as shown in Table 2), the productivity of the organizational HR reflects not an encouraging trend, with the relative average being marginally higher.

The level of HR productivity when judged in relation to the increased level of man-related cost, the value of the organizational HR has been more or less declining, declined to 54% of the base level by the end of the study period as shown in Table 2.

5. The proposed model in retrospect

The proposed model on HR value measure of an organization may be judged on the seven-point criteria as under :

(1) *Conformity with traditional accounting practices* : The model does not envisage any departure from the traditional accounting practices in the following aspects :

- (i) HR is considered as an asset but it does not propose to capitalize HR expenditures which are treated usually as revenue ;
- (ii) performance against cost as the basis of HR value goes well in line with the ratio analysis approach as the usual measure of performance ;
- (iii) use of inflation accounting may no more be new to the traditional practices ;
- (iv) objective assessment of the proposed performance measure from published data through appropriate surrogates fulfil the verifiability characteristics of the traditional accounting practices.

(2) *As an aid to HR value accounting* : The model aims at assessing the relative value of HR rather than absolute value reflecting the appreciating or depreciating nature over time. Such a value measure is in tune with the economic definition of functional value as performance divided by cost.

(3) *Ease of implementation* : It can be implemented with ease following the traditional accounting system. In fact, it does not require any additional information other than whatever is usually available. The inflation indices may be available from the published RBI bulletin. As it does not envisage any change in the existing system, the acceptability and subsequently the implementation may not pose any problem.

(4) *As a planning and control aid to management* : Assessment to total performance and productivity of the organization on an ongoing basis would facilitate the planning and control process of the management.

(5) *As HR development aid* : The relative value measure, the appreciating or depreciating nature, would inspire the managers to review the man-management strategies towards more and more development of organizational HR.

(6) *Impact on organizational HR* : The model aims at HR value as a whole rather than at an individual level, thus may not directly modify the behaviour of the individuals in the organization.

(7) *Usefulness to the external agencies* : The proposed value measure may be an internal management tool ; however, in case it is published, it would reflect to the external agencies the 'total performance' of an organization.

6. Conclusion

The proposed HR value measure based on organizational performance reflects the appreciating or depreciating nature of the human resource of an organization. Such a HR value measure when applied in an integrated iron and steel plant reflects the depreciating nature of its HR. The depreciating HR value may be an eye opener for the management of human resources of the organization. The condition of the HR may perhaps need to be analyzed further to reaffirm the depreciating nature of HR of the organization.

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Annexure 1

Comparative Analysis of Available HRA Models on Seven-point criteria

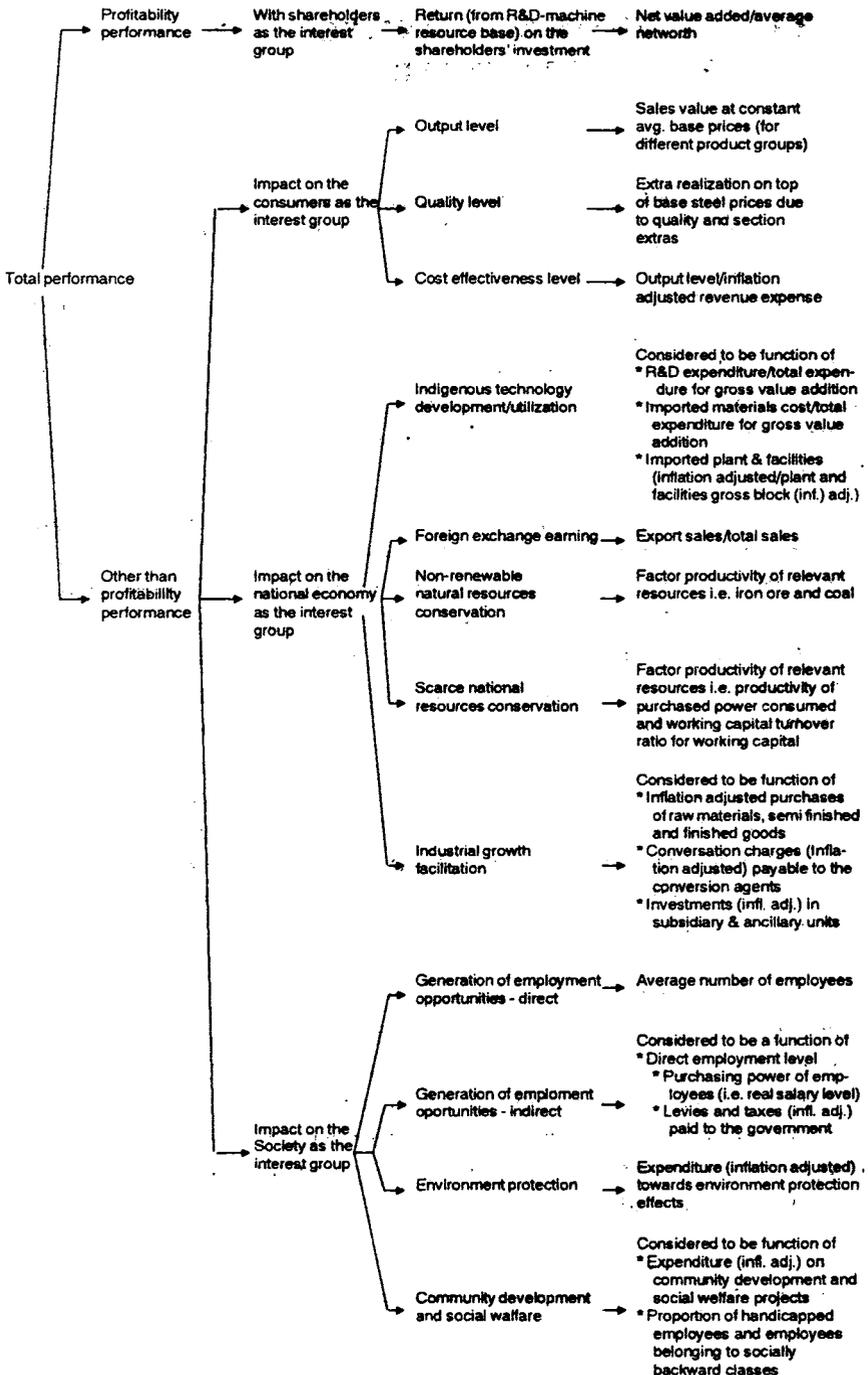
HRA Models & their proponents	Conformity with traditional accounting practices	As aid to HR value accounting	The ease of implementation	As a planning and control aid to the management	As HR development aid	Impact on organizational HR	Usefulness to external agencies
A. Cost-based models							
(i) Historical cost-based models Brummet, Flamholtz & Pyle (1968); Woodruff (1969)	More or less conforming	Marginally useful	Difficult	Marginally useful	Marginally helpful	To some extent	Marginally useful
(ii) Replacement cost-based models Flamholtz (1973)	To some extent conforming	To some extent useful	More difficult	Much useful	Much helpful	Much	To some extent useful
B. Opportunity cost model : Hekimian & Jones (1967)	Marginally conforming	Much useful	More difficult	Very much useful	Very much helpful	Very much	Much useful
C. Economic models							
(i) Goodwill method of valuation Hermanson (1964)	More or less conforming	Marginally useful	Less difficult	Marginally useful	Marginally helpful	Marginal	Marginally useful
(ii) Adjusted Discounted Future Wages Method Harmanson (1964)	Marginally conforming	Marginally useful	Less difficult	Marginally useful	Marginally helpful	Marginal	Marginally useful
(iii) Model Proposed by Lev & Schwartz (1971)	Marginally conforming	Marginally useful	Not at all difficult	Marginally useful	Marginally helpful	Marginal	Marginally useful
(iv) Normative economic model Flamholtz (1971)	Marginally conforming	Much useful	Very difficult	Very such useful	Very much helpful	Much	To some extent useful

Annexure 1 (Contd.)

	HRA Models & their proponents	Conformity with traditional accounting practices	As aid to HR value accounting	The case of implementation	As a planning and control aid to the management	As HR development aid	Impact on organizational HR	Usefulness to external agencies
(v)	Human asset multiplier method Giles & Robinson (1972)	Marginally conforming	Marginally useful	Difficult	Marginally useful	Marginally helpful	Much	To some extent useful
(vi)	Model proposed by Jaggi & Lau (1974)	Marginally conforming	Marginally useful	Very difficult	Useful to some extent	To some extent helpful	Marginal	Marginally useful
(vii)	Model proposed by Sadan & Auerbach (1974)	Marginally conforming	To some extent useful	Difficult	Useful to some extent	To some extent helpful	To some extent	Marginally useful
(viii)	Model proposed by Friedman & Lev (1974)	Marginally conforming	Marginally useful	Difficult	Marginally useful	Marginally helpful	To some extent	Marginally useful
(ix)	Model proposed by Myers & Flowers (1974)	Not at all conforming	To some extent useful	Not at all difficult	Much useful	Much helpful	Very much	Not relevant
(x)	Model proposed by Morse (1975)	More or less conforming	Marginally useful	Less difficult	Marginally useful	Marginally helpful	To some extent	Marginally useful
D.	Behavioural models							
	Model proposed by Likert (1967)	Not at all conforming	Much useful	Most difficult	Very much useful	Very much helpful	Very much	Not relevant
	Other Surrogate measures Powell & Wilkens (1973); Mohoney, Milkovich & Weiner (1977); LaPointe (1983).	Marginally conforming	Marginally useful	Less difficult	Useful	Helpful	To some extent	Useful

Annexure 2

Measure of Total Performance



USERS' VIEWS ON ACCOUNTING STANDARD-SETTING IN INDIA

*Hemendra K. Porwal**

In this article, the author highlights the views of different categories of users on accounting standard-setting in India. Based on the findings, he makes a number of suggestions for incorporation in this respect.

At the beginning of this century, financial statements were treated simply as a means of reporting by management to the shareholders the performance and the financial position of a business enterprise for the period that was over. They were merely reports of the past events concerning the accounting period. The primary users of accounting information then were merely shareholders, creditors and the management.

Over the period of forty years, the accounting discipline has broadened its horizon, and accounting now is regarded as an information system for making economic decisions. It is a means of making reasoned choices among alternative courses of action. The number of users' groups has since increased quite a lot, and at present, includes besides management, investors, creditors, the present and potential suppliers, lenders, regulatory, registration and tax authorities, employees, consumers, competitors and society at large. Users' needs for different types of accounting information have also increased over this period. Greater emphasis is now laid on providing information to those users who have limited ability, authority and resources to obtain information and financial statements of an enterprise for making different types of decisions. Standards have been devised to provide information to different user-groups. This article highlights the views of different categories of users on accounting standard-setting in India like usefulness of standards, issuance of standards, authoritative support, compliance of standards, auditor's duty in relation to standards, standard-setting process, review of standards, alternatives in standards and issuance of a conceptual framework. A questionnaire was canvassed to all categories of users in India. 500 users were selected throughout the country based on random sampling. 63 completed questionnaires were received back after repeated reminder. Thus, the response rate of 12.6% may be considered satisfactory having regard to the Indian practices. The questionnaires received may be classified as :

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Users' classifications

<i>Class</i>	<i>No.</i>	<i>%</i>
Preparers	16	25
Auditors	16	25
Academics	10	16
Others	21	34
	<u>63</u>	<u>100</u>

Unusable questionnaires were rejected. Information was collected from very senior executives, officials, accountants and academicians. Also, personal interviews were sought with the informants comprising auditors, preparers (companies), shareholders, investors, creditors, academicians, executives of stock exchanges, and others. The category 'others' includes company secretaries, cost accountants, stock exchange executives, brokers, financial institutions, banks and accounts officers from Comptroller and Auditors General's (CAG) office.

Usefulness of standards

Users were asked to provide their views whether standards provide useful, relevant and reliable information to different user groups. Almost all the users agree that the standards help in providing useful, relevant and reliable information to shareholders, government, creditors and financial institutions.

Issuance of standards

Presently, accounting standards are issued by Accounting Standards Board (ASB) of Institute of Chartered Accountants of India (ICAI), which consists of 16 members. All the members of ASB is represented by professional chartered accountants. Since all the members are chartered accountants in ASB, there is likelihood of professional bias while setting standards.

Users' views were obtained by seeking their opinion whether the nominees of other bodies, namely, Institute of Company Secretaries of India (ICSI), Institute of Cost and Works Accountants of India (ICWAI), Institute of Bankers, Trustees at large from mutual funds, Public sector Accountants and Finance Officers, Shareholders' Association, Indian Accounting Association (IAA), CAG, Central Board of Direct Taxes (CBDT), Company Law Board (CLB), Federation of Indian Chambers of Commerce and Industry (FICCI), Associated Chambers of Commerce and Industry (ASOCHEM), be in the constitution of ASB or not. More than half of the users have given their preference for having nominees of each of these bodies in the ASB. More than two-thirds of academic and also more than three-fourths of preparers prefer having nominees of these bodies in the ASB. However, there is a wide variation between 'auditors' and 'others' ranging from 25% to 75% and 42% to 89% respectively for having nominees of these bodies. Both these categories, i.e., 'auditors' and 'others' do not prefer to have nominees from 'Public Sector Accountants and Finance Officers' and 'Shareholders' Association' in the ASB.

Authoritative support

In India, there is no legal or authoritative support to the standards issued by the ICAI. Users' views were sought regarding the authoritative support to be given to

the standards either by the Government, or Company Law Board (CLB), or The Securities and Exchange Board of India (SEBI) or the standards be incorporated in the Companies Act. More than half of the users are of the view that legal backing should be given to the standards by the CLB. Users view that as CIB is already an established body, it will be easier to give force to the standards through it. Except 'preparers' all the user-categories are in favour of having a legal force of CLB for standards. Category-wise analysis reveals that users do not prefer standards to be given legal backing of the SEBI.

As regards incorporation of standards in the Companies Act, more than three-fourths of the users are in its favour. Category-wise analysis with the exception of academics also reveals that standards be incorporated in the Companies Act. 'Academics' do not favour incorporation of standards in the Companies Act for the reason that it is a long procedure to amend the Companies Act. Hence, scope for further improvement or flexibility of standards is lost.

Body to observe compliance of standards

The ICAI issues recommendatory standards, which, later on, are made mandatory. But compliance of both the mandatory and the recommendatory standards has so far been insignificant. This is because of the reason that there is no body, which is empowered to monitor the compliance of standards. Most of the users are of the view that compliance of accounting standards should not be monitored by either CLB, or SEBI, or ICAI or by an independent agency comprising sponsors associated with standards-setting. 'Auditors', however, reveal that compliance of the standards should be regulated by the ICAI. Most of the auditors stated that while performing attest function, auditors should see compliance of standards, while 'academics' prefer that compliance should be undertaken by SEBI on the plea that one of the functions of SEBI is to protect investors.

Users' were also asked whether standards be issued as recommendatory or mandatory from the beginning. Two-thirds of the users view that standards should be issued as mandatory from the beginning to give force. About three-fourths of 'preparers' and 'others' favour issue of standards as mandatory from the beginning. However, only one-half of 'auditors' prefer issue of standards as mandatory from the beginning.

Auditor's duty in relation to the mandatory standards

Presently, auditors are required to make only adequate disclosure of non-compliance of mandatory standards and not required to qualify their reports in case of non-compliance of mandatory standards.

Almost 80% of the users favour that auditors should qualify their reports in case of non-compliance of mandatory standards rather than making adequate disclosure in case of non-compliance of mandatory standards.

Users' views were also obtained about the punishment of auditors in case of non-compliance of mandatory standards in the preparation of and presentation of

financial statements by the company, and not making adequate disclosure (or qualification) in their reports. All the users have opined that auditors should be punished in the situation mentioned above.

Due process

In India, no public hearing is done before finalisation of the standards during the standard-setting process. In this respect, users' views were obtained. More than three-fourths of the users of 'academics' prefer public hearing while more than two-thirds of 'preparers' and 'others' recommend public hearing.

Review of standards

So far 12 standards have been issued by ASB of ICAI. However, no separate review committee has yet been appointed by the ICAI, nor has there been any review during the thirteen years of the promulgation of standards.

There is almost a unanimous view of the users that there should be separate review committee to review the standards. Many users stated that the committee should be comprised entirely of other persons than the members of the ASB. Except 'preparers', all remaining categories recommend unanimously for a separate review committee. Over 90% of 'preparers' also prefer to have a separate review committee.

Users' views were also sought on revision of individual standards. Around half of the users are in favour of review of almost all the standards. Interestingly, more than 80% of the users prefer a thorough review of the recommendatory standards especially the three standards AS-2 (Valuation of Inventories), AS-3 (Changes in Financial Position), and AS-6 (Depreciation Accounting).

Various alternatives in standards

In a number of accounting standards, various alternatives have been provided. This provides the flexibility to user-groups to use an alternative according to their suitability. As a consequence, the purpose of harmonisation of accounting practices is defeated. More than 90% of the users were of the view that alternatives in accounting standards be reduced to the minimum. 'Preparers' and 'academics', have unanimously preferred for reduction of alternatives while about 90% of the 'others' and 'auditors' have shown their preference for the reduction of alternatives.

Conceptual framework

A conceptual framework provides foundation to the standards setting process. But no conceptual framework has yet been issued by the ICAI. Users' views were sought regarding issuance of own conceptual framework or adoption of conceptual framework issued by International Accounting Standards Committee (IASC). Some of the users were of the view that initially we may adopt conceptual framework of IASC, but in years to come, we should issue our own conceptual framework. Category-wise analysis also shows that 'auditors', 'academics' and 'others' do not favour adoption of conceptual framework of IASC. A further question was asked from those users who were not in favour of adoption of conceptual framework of

IASC regarding issuance of conceptual framework. Four options were given regarding issuance of conceptual framework, by Government, ICAI, SEBI, or by the proposed standard-setting body. About 72% of the users have favourably responded to the issuance of conceptual framework by the proposed standard setting body (comprising of nominees of different bodies as stated earlier) since it is a representative of all the usergroups. Majority of 'preparers', 'academics' and 'others' do not prefer issuance of conceptual framework either by Government, or ICAI, or SEBI. Majority of 'auditors' prefer the existing arrangement to continue with some modifications.

Findings

The main findings of the analysis of users' views are now summarised below :

1. The ASB should have a wider representation by having nominees of various bodies on it to increase the wider acceptability of the standards. While setting standards, there is need for public hearing to provide acceptability of standards.
2. All the standards should be issued as mandatory from the beginning, and authoritative substantial support should be provided to the standards either by CLB or by incorporating the standards in the Companies Act. A body should monitor the compliance of the standards and be empowered to penalise violators.
3. The proposed standard-setting body should issue a conceptual framework to develop qualitative and acceptable standards.
4. A separate review committee should be appointed to review the standards from time to time.
5. There is a need to reduce various alternative accounting treatments as prescribed by different standards to the minimum to prevent use of diverse accounting policies/practices in similar situation so as to increase comparability of financial statements.

BOOK REVIEW

L. S. Porwal, Accounting Theory, Tata Mc-Graw-Hill Publishing Company Ltd., Second Edition, 1993, pp.398.

The second edition of Porwal's Accounting Theory is a welcome addition to the scanty Indian literature on the subject. The book contains fourteen well written chapters divided into three parts. In part one the theoretical framework is given. It contains structure of accounting theory, approaches to the formulation of accounting theory, conceptual framework for financial accounting and development of accounting thought. Part two deals with elements of financial statements, and their reporting and disclosure encompassing items like revenues, expenses, gains, losses, income, assets, liabilities, accounting for changing prices, and statement of changes in financial position and their disclosure. In the last part, contemporary issues in accounting, such as, cash flow accounting, corporate social performance and human asset accounting, have been discussed. Questions on each chapter are included towards the end of the book. Additional reading and reference materials have been given in appendices at the end of different chapters. This will undoubtedly be helpful to the advanced-level students to pursue the matters of their interest. Brief discussions on current issues will help researchers to identify issues for further study.

The authors have drawn heavily from the reports of commissions and committees in different countries and from books and articles published internationally. Yet he has nicely integrated the above into Indian situations. Porwal in his usual way makes a lucid presentation of complex theories and gives numerous illustrative examples, wherever necessary, to aid better understanding of various concepts and theories. The schematic design of the book is logical. The book will therefore be useful to the B. Com. (Hons.), M. Com., and M.B.A. students. Students of professional courses and business executives will also find it useful. Research in accounting theory and practice is a promising but neglected area in the universities, professional institutes and corporate sector in India. Interested researchers may therefore use this book to identify the promising issues which require their prior attention for study in Indian context.

However, contemporary issues like Agency Theory, Positive Accounting Theory, role of accounting in economic development in India and Environmental Accounting and Reporting should have also been included in this edition.

Dr. Bhabatosh Banerjee
Chief Editor, IJA

Emerging Dimensions in Accounting; G.L.Dave(ed), Scientific Publishers, Jodhpur, 1994, xii + 298 pp.

This book of readings contains 18 articles on a wide range of topics in the field of accounting and also a substantial preface by the editor. One stated aim of the book is "to provide an up to date and comprehensive literature on different emerging dimensions of accounting" (p.viii). The issues covered by the articles published in the book include accounting research, the setting of accounting standards, corporate reporting and disclosures, farm accounting, human resource accounting, inflation accounting, social reporting and value added accounting. Out of the eighteen articles published in this book, five have been contributed by foreign authors, including one from Bangladesh, and the rest have come from Indian accounting academicians. The editor however has not stated the basis he has adopted in arranging and ordering the articles.

The book begins with Gaffikin's article entitled "An Alternative Approach to Accounting Research : Critical Accounting Studies." In the opinion of the present reviewer, this is one of the best articles contained in this book. In this article the author questions the purported basis of mainstream accounting research which, according to him, tends to alienate accounting theory from practice. He argues in favour of adoption of the "critical theory" approach which proposes to dynamically link accounting theory to practice. The article is likely to be quite appealing to those who are conceptually oriented and whose principal area of interest is accounting research methodologies.

Swami's article, which is the largest of all, explains the mechanism of Inflation Adjusted Standard Costing Analysis (IASCA) and explores the feasibility of utilising the mechanism in measuring managerial performance. Hussey and Bence in their article entitled "Analysts, Institutional Investors and the Annual Report" discuss the research that has been conducted by them on the published financial statements of a large public limited company with a view to examining the reactions of investment analysts and institutional investors.

Other articles which appear to be worth mentioning include Cheng and Vinten's "Application of an Expert System in Materiality : An Evaluation. Sharma and Jain's "Effective System of Corporate Reporting", Chattopadhyay's "Accounting and Auditing Practices in Public Sector," Pramanik's "Cash Flow Accounting – A Measure of Corporate Performances" and Ghosh's "Accounting for Agricultural Farms." The last-mentioned article is likely to be useful to those who are interested in promoting measures for developing accounting and reporting systems for agricultural operations.

The book has several limitations. The editor has not followed any logical basis in organising the articles published in the book. There are numerous grammatical as well as other technical mistakes in the book. The indiscriminate use of capital letters will appear to many to be highly irritating. Editorial lapses are found not only in the body of the articles but also in some of their titles. One instance is the opening sentence of Sikidar's article which reads : "Who owns a company really the days of

managing agency are over" (p. 159). But, despite the above limitations, the book should be highly useful to a wide variety of user groups. The book should particularly be useful to those postgraduate commerce and management students who are majoring in accounting and finance. Researchers in the field of accounting are also expected to be benefited much from this book. The book can gainfully be employed by those responsible for framing accounting principles and policies.

A. K. Basu
Reader in Commerce
University of Calcutta

Sri Bimalendu De, Reader in Commerce, Calcutta University, and former Vice-Chairman of the Calcutta Branch of the Indian Accounting Association left for his heavenly abode on January 31, 1994. He succumbed to his sudden heart-ailment.

Sri De, a life member of the Indian Accounting Association, always took active part in the activities of the Association. His premature death is a great loss to the accounting profession.

The members of the IAA convey their deepest condolences to the bereaved family of Sri De for his sad and sudden demise.

INTERNATIONAL CONFERENCE NEWS

78th Annual Meeting AMERICAN ACCOUNTING ASSOCIATION New York Marriot Marquis Hotel August 10-13, 1994

The 78th Annual Meeting of the American Accounting Association will be held at New York Marriot Marquis Hotel, New York, from August 10 to 13, 1994. The highlights of the Annual Meeting are given below :

Highlights of the Annual Meeting				
	Wednesday	Thursday	Friday	Saturday
Morning	Continuing Professional Education	Opening Ceremony Plenary session with James L. Cochrane and Outstanding Accounting Educator Award	Plenary session with Mark H. Gitenstein and Joseph Grundfest, and Seminal Contribution to Accounting Literature Award.	Plenary session with Edward Jenkins
		Section business meetings	Concurrent sessions	Concurrent sessions
Lunch	Registration 1:00 PM-7:00 PM and open exhibits at 1:00 PM	Section business luncheons	Luncheon Speaker Joseph Califano Innovation in Accounting Education Award Notable Contribution to Accounting Literature Award	Luncheon Speaker Joseph J. DioGuardi Competitive Manuscript Award Wildman Medal Award
Afternoon		Section business meetings Concurrent sessions	Concurrent sessions	AAA Annual business meeting
	Early Bird Reception	Concurrent sessions	Concurrent sessions	Concurrent sessions
		Welcome Reception	'50s Rock & Roll Party	Theater Event

Registration fee is \$ 210 per person (if paid by July 11, 1994 ; thereafter a late fee of \$20 will be charged). Registration fee includes : Name Badge (**required for admittance to all events**), Collected Abstracts (Proceedings) if the fee is received at the AAA office by July 11, 1994, List of Registrants, 1995 Membership Dues in the American Accounting Association, Wednesday evening Informal Reception (spouse and family included), Thursday evening Welcome Reception (spouse and family included), one ticket to the Friday Evening '50s Rock & Roll Party (space available and if requested on registration form), and a ticket to either Friday or Saturday luncheon. Please indicate luncheon choice :

Friday Luncheon_____

Saturday Luncheon_____

For registration particulars of (a) Name (b) Nickname (for badge) (c) Spouse Name (if attending) (d) Mailing Address (e) Employer and (f) Telephone/Fax Number should be sent along with the registration fee.

Make cheques payable to AMERICAN ACCOUNTING ASSOCIATION and mail with this form to **American Accounting Association, 5717 Bessie Drive, Sarasota, Florida 34233**. The registration deadline is **JULY 11**. After that date, a late registration charge will be made. NOTE : Cancellation requests received after JULY 11 will incur a \$ 20.00 cancellation charge. NO REFUNDS WILL BE AVAILABLE FOR CANCELLATIONS AFTER AUGUST 2, OR FOR NO-SHOWS.

Hotel. The Annual Meetings will be held in *New York Marriott Marquis Hotel*. Rates for the AAA Annual Meeting are : \$ 148 per night (single or double). Tariffs for other hotels for 1994 Annual Meeting are given below :

Holiday Inn Crowne Plaza, Broadway 48th Street — \$ 135 per night
[2-Block walk from the Marriott]

New York Hilton & Towers, 1335 Avenue of the Americas — \$ 133
[15-minute walk from the Marriott]

Milford Plaza Hotel, 8th Avenue (between 44th and 45th Streets) — \$ 89
[Five-minute walk from Marriott]

Hotel reservations must be post-marked by July 11, 1994 along with particulars of the registrants and a cheque for **one night's deposit**. Mail your particulars and Cheque to : AAA Housing Bureau, 2 Columbus Circle, New York, NY 10019, USA.

**Sixth Asian-Pacific Conference on
International Accounting Issues
November 20-23, 1994
Taipei, Taiwan**

1. Background

The Sixth Asian-Pacific Conference on International Accounting Issues will be held from November 20-23, 1994 in Taipei, Taiwan. It will be jointly sponsored by California State University, Fresno, and National Taiwan University, Taiwan. The Conference will provide an important forum for the interaction of different ideas and information between academicians and practitioners, in order to enhance the understanding of international accounting issues in various Asian-Pacific countries.

Research paper presentation and special workshops will be held by well-known international accounting scholars and practitioners to discuss issues on international accounting research, education and practice, impact of advanced technology on international accounting, comparative ethics in international auditing and business, and related international accounting topics. Prominent scholars and practitioners from many countries the world over are expected to attend the conference.

2. Paper submission

Last date May 15, 1994.

3. Conference registration fee

Early registration (received by August 30, 1994) — US \$ 200

Late registration (after August 30, 1994) — US \$ 250

Registration fee covers Reception, 2 Breakfasts, 2 Luncheons, 1 Dinner (Banquet and Entertainment), copy of Conference Proceedings and One-Day Tour.

Send your draft along with your particulars, e.g., Name, Position, Organisation, Address, Telephone/Fax Number to : **Professor All Peyvandl, Asian-Pacific Conference on International Accounting Issues, The Sid Craig School of Business & Administrative Sciences, California State University, Fresno, California—93740-0007, U.S.A. The draft should be drawn in favour of C.S.U.F. Foundation. [Fax (209) 278-4911]**

For further details about the conference contact :

Dr. Rong-Ruey Duh
Professor & Chairman
Dept. of Accounting
National Taiwan University
19, HSU CHOW RD. 10020
TEIPEI, TAIWAN R.O.C.
Fax 351-0907

Dr. B. Banerjee
Member, Program Committee
164/78, Lake Gardens
Flat - C-7
Calcutta-700 045
Phone : 473-5040

**40th World Conference
International Council for Small Business
June 18-21, 1995
Sydney, Australia**

The International Council for Small Business (ICSB) and the Small Enterprise Association of Australia and New Zealand (SEAANZ) invite members of the IAA to attend 40th World Conference at the Sydney Convention Centre, Darling Harbour, Sydney, Australia, from June 18-21, 1995. The program will address the **Skills for Success** in Small Enterprise in a rapidly changing and increasingly demanding business environment and will offer innovative ideas on this general theme. Research and practical papers will be invited in the near future, for presentation in parallel tracks and workshops. There will be something of interest to everyone involved in and supporting smaller enterprise. Interested members may ask for a 'Registration Brochure' by sending their "Intention to Attend" with particulars like Name, Organisation, Address (with Pin Code), Telephone and Fax Number, if any. to :

The Secretariat
40th ICSB Conference
GPO Box 128
Sydney NSW 2001
Australia

**FOR MEMBERS OF THE INDIAN ACCOUNTING ASSOCIATION
EXPOSURE DRAFT FOR COMMENTS**

Draft Amendments to the constitution of the Indian Accounting Association

Clause 1 Name

Present provision

The Association shall be called Indian Accounting Association and its Head office shall be at Banaras Hindu University, The Association shall have its Emblem.

On account of operational problems being faced at the present location of Head office, it is proposed to change.

Proposed provision :

The Association shall be called Indian Accounting Association and its Head office shall be at Sukhadia University, UDAIPUR. The Association shall have its Emblem.

Clause 4 (b) Membership fee in India shall be as under :

- (i) Life Membership Rs. 400/-
- (ii) Ordinary Membership R. 50/- per annum
- (iii) Associate Membership Rs. 25/- per annum
- (iv) Institutional Membership : Permanent Rs. 1000/-
Annual Rs. 300/-

It is proposed to raise the rate of fee in order to mobilise adequate resources.

Proposed provision :

Membership fee in India shall be as under :

- (i) Life Membership Rs. 500/-
- (ii) Ordinary Membership Rs. 75/-
- (iii) Associate Membership Rs. 50/-
- (iv) Institutional Membership Permanent Rs. 2500/-
Annual Rs. 500/-

Clause 4(b) : The official year of the Association shall be from January 1 to December 31.

It is proposed to change the official year from calendar year to financial year.

Proposed provision :

The official year of the Association shall be from April to March 31, (Financial year).

Clause B

The Management of the Association shall vest in the Executive Committee which shall consist of :—

- (a) President
- (b) Two Vice Presidents (Senior and Junior)
- (c) General Secretary
- (d) Treasurer
- (e) Librarian
- (f) Chief Editor
- (g) Nine elected members
- (h) Coopted members not exceeding 3 in number, atleast one of them shall be the Secretary of Local Branch

It is proposed to give more representation to local Branches and also include a new category of permanent invitees who will have no voting right.

Proposed provision :

- (a) President
- (b) Two Vice-Presidents (Senior and Junior)
- (c) General Secretary
- (d) Treasurer
- (e) Librarian
- (f) Chief Editor
- (g) Nine elected members of which atleast 3 will be Local Branch Secretaries
- (h) Permanent Invitees (Non-voting members) :
- (i) Past Presidents (ii) Honorary members (iii) Patrons and Fellows of Indian Accounting Association

8(c) Nomination Committee for Nominating the Junior Vice-President

The Junior Vice-President shall be nominated by a Nomination Committee consisting of the following seven members :

- (i) President of the Association
- (ii) Immediate Past President
- (iii) Three members selected by the Executive Committee of the Association
- (iv) Two members elected by the General Body of the Association

In order to make the Nomination Committee operationally more independent and effective, it is proposed to change its composition, keeping in view the status of the office of the Vice- President to be nominated.

Proposed provision :

The Junior Vice-President shall be nominated by a Nomination Committee consisting of the following :—

- (i) President of the Association
- (ii) Senior Vice President

- (iii) Three members nominated by the Executive Committee out of the permanent invitees present at the meeting of the Executive.

Clause 10(1). Meetings

The General Meeting (General Body Meeting) of the Association shall ordinarily be held between October and December each year at 14 days clear notice.

As a consequence of the proposed change in the accounting year, this has to be changed.

Proposed provision

Annual General Meeting 10 (a)

10(a) Annual General Meeting of the Association shall ordinarily be held latest by June 30 following the end of a financial year. It will require 14 days' clear notice.

1.1 Election

The present provision reads as follows :—

"Arrangements for election may be made by postal ballot or any other method approved by the Election Committee. Nominations duly proposed and seconded should reach the general Secretary atleast one week before the date of election.

It is proposed to add a new provision :

The Election Committee shall consist of the following :—

- (a) President
- (b) Senior and Junior Vice-Presidents
- (c) General Secretary

14. Local Branches

Clause 14(e) reads as follows :—

50% of the income of local branches shall be transferred to the accounts of the Association at the Head Office.

In fact, Treasurer has to manage funds and accounts of the Association. The funds should be sent to him. The General Secretary should maintain Member's Register. He should be informed about membership at Local Branches. Therefore, the above provisions are proposed to be amended as follows :—

50% of the income of local branches shall be transferred to the account of the Association with the Treasurer alongwith a list of members with full postal addresses for intimation to the President and to the General Secretary

It is proposed to add a few new sub-clauses :—

(f) The Local Branch Secretary shall submit a copy of the annual report and duly audited final accounts of the Local Branch to the General Secretary within one month of the end of a financial year.

(g) In the event of failure to submit the annual report and/or duly audited final accounts by Local Branch, the Executive Committee may decide to withdraw recognition to the Local Branch after giving due notice to the Local Branch Secretary .

Signatures of the Members
of the Committee

S/d. Dr. N. M. Khandelwal, Chairman.

S/d. K. R. Sharma, Member.

S/d. Dr. Nageshwara Rao, Member.

S/d. Dr. B. H. Desai, Member.

BRANCH NEWS

Gujarat Branch

Indian Accounting Association — Gujarat Branch and Academic Staff College, Gujarat University, jointly organised one-day seminar on "PRE-REVIEW OF CENTRAL BUDGET 1994-95" on 6th February, 1994 at School of Commerce, Gujarat University, Ahmedabad.

Total 40 delegates attended the seminar. Out of forty, 22 were participants of Refresher Course in Accountancy from Maharashtra, Andhra Pradesh and Tamil Nadu and 18 from various parts of the State of Gujarat.

Principal R. H. Vyas, the Chairman of IAA — Gujarat Branch, gave welcome address and introduced the Chief Guest, Dr. Anand P. Gupta, Professor of Economics, IIM, Ahmedabad and also Dr. N. M. Khandelwal, President, Indian Accounting Association. Prof. Anand P. Gupta gave an excellent thought — provoking key-note address. A draft note on Central Budget-1994 in the form of observations and suggestions was jointly prepared and presented by Dr. N. M. Khandelwal, the President of IAA and Dr. B. H. Desai, the Vice-chairman of IAA — Gujarat Branch. It generated lively discussions among the participants. Shri H. S. Oza, the Secretary of IAA — Gujarat Branch, conducted the seminar and expressed a vote of thanks. Prof. V. A. Pathak served as a rapporteur.

Calcutta Branch

The Annual Seminar of the Branch for the year 1993-94 was held at the Department of Commerce, Burdwan University, on 9 April, 1994 on the topic 'Public Sector Disinvestment'. Professor Mohit Bhattacharya, Vice-Chancellor, Burdwan University, was the Guest-in-Chief. Shri Sukumar Bhattacharya, Chairman of the Calcutta Branch, presided. Shri Joydeb Sarkhel, Head of the Department of Commerce, offered a hearty welcome to the delegates. Professor Amit Kumar Mallick, Dean, Faculty of Arts, Commerce and Law, gave vote of thanks at the end of the inaugural session.

Professor Mohit Bhattacharya in his inaugural address appreciated the selection of the seminar topic since 'Public Sector Disinvestment Policy' marks a departure from the economic policy that India had been pursuing since 1950. He further stated that from the late eighties, there has been a total metamorphosis of economic order in the world. India cannot remain indifferent to such developments. But since a policy like 'Public Sector Disinvestment' has both economic and social import, a dispassionate consideration of the whole issue is necessary before accepting public sector disinvestment as a part of economic policy for the structural adjustment reforms in India.

The inaugural session was followed by the technical session where 18 papers (9 in the pre-lunch session and 9 in the post-lunch session) were presented. Dr. J. B. Sarker, Secretary, IAA Calcutta Branch, presented the key note paper. Dr. Sarker dealt with in detail the definition of disinvestment, reasons for disinvestment, fate of disinvestment in a few other countries and finally the unitwise details of the disinvestment done in the selected 34 PSUs in India between December 1991 and December 1992. In his opinion, the disinvestment policy should not be considered as the wonder-drug to cure the present ills of public sector in India since the reasons for the present inefficiency lay somewhere else.

Others who presented papers at the seminar included Professor I. K. Chatterjee, Shri T. C. Saha, Shri T. K. Bose, Dr. B. N. Ghosh, Dr. A. K. Sengupta, Sri D. Bagchi, Sri A. P. Neogi, Sri D. R. Dandapat, Sri R. K. Raul, Sri S. K. Dutta, Sri S. Bhattacharya, Sri P. K. Roy, Professor B. N. Patnaik and Sri U. S. Saha. Professor P. Chattopadhyay participated in the discussion.

Sri Sukumar Bhattacharya stated that from the magnitude of disinvestment done so far in India, it could not be said that the Government is keen on privatisation of public sector in the country. Government policy, in his opinion, is still obscure in this respect.

The seminar was largely attended and the whole discussion was very lively. It ended with a vote of thanks from Professor I. K. Chatterjee, Vice-Chairman of IAA Calcutta Branch.

THE INDIAN ACCOUNTING ASSOCIATION

The Indian Accounting Association is an organisation of persons willing to assist in the advancement of accounting education and research. The registered office of the Association is at the Department of Management Studies, Banaras Hindu University, Varanasi-221005, India. Membership of the Association is open to academics and professionals who are willing to assist in achieving the objectives of the Association.

The membership fees for individuals are as under :

	India	Abroad
Life	Rs. 400	US \$ 100
Annual	Rs. 50	\$ 25

Members are entitled to participate in the activities of the Association and receive a free copy of the Indian Journal of Accounting and selected research publications.

INDIAN JOURNAL OF ACCOUNTING

Indian Journal of Accounting is an official publication of the Indian Accounting Association. It is published twice a year, in June and December respectively

The subscription rates are :

Individual	India (Rs.)	Abroad (US \$)
Annual	50	25
Life	400	100
Institutional		
Annual	300	100
Permanent	1,000	250

Other particulars of the Journal are :

TECHNICAL

Periodicity : Bi-annual	Overall Size : 24½ cm. × 16 cm.
Language : English	Printed area : 20 cm. × 11½ cm.

Manuscripts (in duplicate and neatly typed in double space) for publication in the *Indian Journal of Accounting* should be sent to the Chief Editor, Indian Journal of Accounting, Faculty of Business Studies, University of Calcutta, Calcutta-700073. Each submission shall include a separate title page listing full particular(s) of the contributor(s). There shall not be any author(s) identification in the paper in order to facilitate blind review. Reference books and research publications for review (two copies of each title) should also be sent to the Chief Editor.

**STATEMENT ABOUT OWNERSHIP AND OTHER
PARTICULARS OF JOURNAL**

Printer's name : Dr. S. K. Singh
Nationality : Indian
Address : Faculty of Management Studies
Banaras Hindu University
Varanasi- 21 005

Place of Publication : Calcutta
Periodicity of Publication : Half-yearly
Publisher's Name : Dr. S. K. Singh
Nationality : Indian
Address : Faculty of Management Studies
Banaras Hindu University
Varanasi-221 005

Chief Editor's Name : Dr. Bhabatosh Banerjee
Nationality : Indian
Address : College of Business Studies
University of Calcutta
Calcutta-700 073

Name and address of individuals who own the newspaper and partners or shareholder holding more than one per cent of the total capital : Indian Accounting Association
Banaras Hindu University
Varanasi-221 005

I, Dr. S. K. Singh, hereby declare that the particulars given above are true to the best of my knowledge and belief.

(Sd/-) S. K. Singh
Signature of Publisher

Printed in India by Dr. S. K. Singh at Ajanta Printers, 7B, Sitaram Ghosh Street, Calcutta-700 009 (Ph. 241-4249/241-3969) and published by him on behalf of the Indian Accounting Association, Varanasi-221 005, India.