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## **EDITORIAL**

Financial reports are seen today as much more than mere legal documents. They are instruments for giving credible financial information to capital market participants and to the public at large. So, due emphasis has been given to this vital aspect of accounting in publishing the current issue—four articles relate to different aspects of financial reporting. Bikki Jaggi examines why forecast information is considered important for investment decisions. Philip Siegel and Khurseed Omer discuss the ability of forecast alternative cash measures using multivariate models. While V. K. Vasal identifies the determinants of extended corporate reporting in India, M. Ranganathan and R. Madhumathi explain the graphic techniques for presentation of financial results.

The remaining four articles deal with accounting education, management accounting, ethics in accounting and taxation respectively. Fabian Pok and Patrick Hutchinson analyze in their article the perceptions of accountants in practice, accounting academics and accounting students regarding accounting education and influence of cultural factors on it in developing countries with particular reference to Papua New Guinea. While conceptualization of ethics in accounting is the focus of Arup Choudhuri's article, Tanmoy Datta argues for the need for management of liquidity. K.F. Alam examines the influence of taxation on the capital structure of companies in the manufacturing industry in New Zealand.

As usual, the international conference news section contains a number of information for the interested readers.

Lastly, I express my thankfulness to the associate editors, members of the editorial board, office-bearers of the Indian Accounting Association and secretaries of the local branches for their co-operation and support.

**B. Banerjee**

*Chief Editor*

December 4, 1995

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## DISCLOSURE OF MANAGEMENT EARNINGS FORECASTS IN FINANCIAL STATEMENTS : CHALLENGES FOR DEVELOPING COUNTRIES

*Bikki Jaggi\**

The author examines why forecast information is considered important for investment decisions. After evaluating the historical developments related to public disclosures of forecast information in the U.S. and need for disclosure of forecast information for policy implications for developing countries, he concludes that investors should be provided with information on the firm's future performance for evaluating their investment strategies and that the regulatory bodies in India should make the public disclosure of management forecast information mandatory.

### I. Introduction

Forecasts or predictions have become an integral part of our modern day life. Similarly, in business life, forecasts also play an important role. Management of companies routinely develop forecasts for sales, revenues, costs, income, etc., for their internal use, but, due to several reasons, they do not disclose forecast information to investors and other outside constituents on a regular basis. Investors, on the other hand, who need forecast information for their investment decisions, either develop their own forecasts on the basis of historical data published in financial statements and information available from other sources, or they buy forecast information from security analysts. Irrespective of the source of forecast information, this information is considered critical for investment decisions.

This paper examines why forecast information is considered important for investment decisions, evaluates the historical developments related to public disclosure of forecast information in the United States, and examines whether firms in the developing countries (with special reference to India) should be required to disclose forecast information in financial statements.

The remaining paper is organized into four parts. In the second part we discuss the usefulness of financial information contained in financial statements for investment decisions. This is followed by a review of the

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historical developments for public disclosure of management forecast information by the companies in the United States. In this section, we also examine regulatory agencies' and professional bodies' position on the disclosure of forecast information in financial statements. Part four examines the rationale for public disclosure of forecast information. The last part discusses whether it would be desirable to include management earnings forecasts in the financial statements of firms in the developing countries and whether this disclosure would serve any useful purpose.

## **II. Association between Financial Information contained in Financial Statements and Investment Decisions**

During 1960s, the accounting profession in the United States was challenged by investors and security analysts to provide more relevant financial information for investment decisions. This challenge was part of the rising tide of "consumerism", which, in fact, assaulted the quantity and quality of virtually every good and service produced in the country. In the absence of reliable forecast information, investors were finding it difficult to make optimal investment decisions, and demanded disclosure of information on management earnings forecasts. In this section, we first examine how the nature of historical information contained in financial statements changed to meet the needs of financial statement users. Then, we examine why disclosure of forecast information in financial statements was considered important.

### *(1) Historical Information contained in Financial Statements and Investment Decisions*

The nature of financial information contained in financial statements, which originally focused on the financial position of the firm, was considered inappropriate for investment decisions. As a result of widespread ownership of firms, demand for information shifted from financial position of the firm to profitability of the firm, and thus the focus of reporting shifted from balance sheet to income statement.

Investment decisions required that economic value of common stocks be determined in a way that investors were able to compare the value of common stocks of different companies in order to arrive at an optimal investment strategy. The multiples of earnings or the present worth of future earnings was considered to be appropriate technique to determine the economic value of the firm. Consequently, the demand for earnings information assumed greater importance. Furthermore, it was demanded that earnings information be presented in a way that investors and security analysts were able to forecast future earnings so that the economic value of the firms could be determined.

Historical data as it was disclosed in financial statements at that time was considered to be inadequate for making predictions about the firm's future earnings. Researchers started highlighting the deficiencies in historical data disclosed in financial statements and suggested certain improvements so that it became useful for investment decisions. Three improvements were especially suggested in this respect and all of them have since been incorporated in the financial statements of US companies.

First, financial statements were required to differentiate between recurring and non-recurring elements of Income. Second, income from continuing operations and non-continuing operations needed to be clearly differentiated in income statements. Recognizing the importance of income numbers for prediction purposes, the modified Generally Accepted Accounting Principles required US corporations to clearly identify extraordinary items and show separately continuing and discontinued operations.

Third, in the case of large corporations with a variety of products and services, separate reporting for each segment of business was considered essential. Accordingly, the Securities and Exchange Commission (SEC) required all SEC registered companies to provide segmental information on their operations.

In addition to the above three developments, all US firms were required to provide information on the impact of changes in accounting methods and policies. This was done to make the reported information more useful for prediction purposes.

Though these modifications improved the predictive ability of historical data, but historical data by itself is not sufficient enough to enable investors to make predictions about future earnings of the firm. Thus, disclosure of forecast information was considered to be more useful for investment decisions.

## *(2) Forecast Information in Financial Statements and Investment Decisions*

It has been argued that investors with close ties to the firm's management or investors who have the benefit of inside information will comparatively be in an advantageous position compared to those who do not have access to this information. This difference in the knowledge of information about the firm results in asymmetry of information between the two groups, which is likely to lead to suboptimal investment decisions. As a result of suboptimal decisions, there is likelihood of resources being misallocated to different sectors of the economy, which will have negative effect on capital markets and ultimately on the country's economy. In order to improve the quality of investment decisions and the capital

market's efficiency, reduction in asymmetry of information is considered to be important.

It has been argued that disclosure of earnings forecasts in financial statements will make the forecast information available to all interested investors on an equitable basis, and will reduce the asymmetry of information. On the other hand, nonavailability of forecast information in financial statements would result in a gap between the need for and availability of this information. With the objective to reduce this gap, researchers and professionals reevaluated the information generation process and presentation of forecast information. After a lengthy debate on the disclosure of forecast information, a general consensus emerged that inclusion of forecast information in financial statements would serve a useful function for investment decisions. This realization has been the result of an evolutionary process over an extended period of time. A brief review of important aspects of the debate on the process will highlight the position of management, regulatory agency, and professional body.

### **III. Historical Developments on Inclusion of Forecast Information in Financial Statements**

Inclusion of forecast information in financial statements has generally been opposed by management of corporations. The management position was originally supported by the professional body (AICPA) as well as the regulatory agency (SEC). As a result of open debate on this issue, the AICPA as well as SEC changed their position and encouraged management to disclose forecast information. Important aspects of the position taken by each group are briefly evaluated.

#### *(1) Management Position*

Though management has long been involved in preparing various types of earnings forecasts, preparing budgets or profit plans for internal planning and control purposes and for making different types of decisions, but they have been opposed to disclosure of forecast information to outsiders in a systematic way. Their opposition has been based on the fear that they might divulge confidential information to competitors, it would involve additional expense to prepare forecast information, and there could be a possibility of legal proceedings by disgruntled investors if forecasts were not met. Despite these concerns, some companies have been making forecast information available to outsiders on a selective basis through press releases or through packages for promotion on new stock issues.

Apart from disclosing forecast information on a selective basis, managements have not been convinced to disclose information on their earnings forecasts in financial statements on a regular basis.

## (2) *Securities and Exchange Commission's Position*

Prior to 1970, the SEC did not recognize the need for future-oriented information to be included in financial statements. But slowly pressure started building up from different sources. In early seventies, the SEC began revising its policy on prohibiting the inclusion of forecast information in financial statements.

The most important reason for the change in the SEC's position probably related to the release of management forecast information to security analysts on a selective basis, as discussed in the preceding section. In private meetings with security analysts, the top managements would disclose estimates relating to the firm's next year earnings. Security analysts would also obtain forecast information from other senior officers of the firm through informal discussions.

In 1975, the SEC developed a proposal for inclusion of forecast information in financial statements and invited comments on the rule and form of changes to implement the "Statement by the Commission on the Disclosure of Projections of Future Economic Performance". This statement required that companies release forecast information by including it in 10K reports. Any significant change in the forecast information required filing of 8K no later than 10 days after that event occurred.

The SEC's proposal was developed on the premise that managements' assessment of the company's future performance will result in information which will be useful for investors, and that such information should be made available to all investors on an equitable basis. The proposal required that reports filed with the SEC include forecast information and all financial details pertaining to this forecast information. The information filed should at the very least include information on sales or revenues, net income, and fully diluted earnings per share. Furthermore, it required disclosure of the underlying assumptions, and a provision of caution that the achievement of the forecasts depended on the occurrence of the specified assumptions. It also defined the circumstances under which the statement could be deemed misleading or fraudulent.

Public hearings were held on the proposal, and it became clear from comments that preparers of financial statements were not in favor of the proposal and management strongly opposed it. On August 23, 1976, the SEC withdrew its proposal with the statement :

"Due to the important legal, disclosure policy and technical issues raised by the commentators with respect to the projection proposals and the lack of public input on the change of control proposals, the Commission has determined that all of these proposals should be withdrawn". (SEC 1976, p. 473).

In 1978, the SEC, however, issued guidelines for voluntary disclosure of projections, and in June 1979 it adopted a rule providing for a "safe harbor" from liability provisions of the Federal Securities Laws for projections and management's plans and objectives plus disclosed assumptions [SEC, 1979]. According to this rule, management's statements with regard to forecasts would not be deemed false or misleading unless the forecasts were prepared without a reasonable basis or they were disclosed in other than good faith.

In summary, prior to 1970, the SEC did not allow inclusion of forecast information in financial statements. At present, forecast information may be included on a voluntary basis. If forecasts are developed on a reasonable basis and are disclosed in good faith, the preparers would be protected by the safe harbor from liability provision of the Federal Securities Laws.

The major objective of the new SEC's regulations has been to eliminate the management's fears for disclosing forecast information by providing "safe harbor" from liability if forecasts are prepared in good faith. These regulations were also intended to remove the management's fears of costly litigation, diminished credibility, and a general loss of investor confidence resulting from material variations between forecasted earnings and actual results.

### *(3) AICPA's Position on the Management Earnings Forecasts*

In response to the SEC's position, the AICPA started debates to deal with the issue. It, however, expressed its opposition to mandatory disclosure of forecast information. At the same time, it began developing guidelines for auditors to examine forecast information. In March 1975, it issued guidelines which provided general criteria for a forecasting system, and in 1980 it provided guidelines for review of financial statements. In 1985, it issued a statement which established procedures and reporting standards for compilation services on the prospective financial statements.

The earlier position taken by AICPA was that CPAs do not possess technical qualification to attest to the accuracy of financial statements, and, therefore, there should be no attestation of forecasts. Later on, a compromise solution was found which related to the attestation of underlying assumptions and bases used in the development of forecasts.

## **IV. Disclosure of Management Earnings Forecasts in Financial Statements**

### *(1) Need for Disclosure Forecast Information*

The need for disclosure of forecast information is basically derived from optimal investment decisions and also to achieve certain management objectives.

Modigliani and Miller (1958) presented theoretically strong and valid arguments in favor of the need for a stream of "profits" over time for valuing a firm. Their argument has been reflected in the "Theoretical Framework for Accounting" developed by the Financial Accounting Standard Board (FASB) in the United States. Upon the assumption that future earnings influence the value of the firm, it can be said that these earnings will have a strong impact on the investors' motivation to invest in a particular firm. If future earnings are not attractive, motivation to invest will not be strong.

It has been observed in actual practice that investors constantly seek information on the future performance of firms. In addition to developing their own predictions, they seek this information from outside sources, such as security analysts, brokers, news media, etc. Thus, the strong demand for forecast information suggests that this information is being used for investment decisions.

Forecast information from outside sources generally involves costs (subscription to Value Line Service, payments to brokers and security analysts, purchase of investment newsletter, etc.). In such cases, value of information is being weighed against costs. Because it is difficult to assess the value of information relating to future, information which involves heavy costs may not be used in investment decisions. Consequently, investment decisions which ignore such information may not be optimal. To achieve the objective of optimal investment decisions, disclosure of forecast information in financial statement would be desirable. Furthermore, as pointed out earlier, disclosure of forecast information in financial statements would also enable us to reduce asymmetry of information available to different groups of investors.

From the management perspective, the need for disclosure of management earnings forecasts is derived from their motivation to achieve certain objectives. Sometimes, management may be motivated to disclose forecast information to provide positive signals to the investors. Despite the fact that it would be cheaper and less risky for management to signal forecast information to the market by cooperating with analysts in the development of security analyst forecasts (for example, see Ajinkya and Gift, 1984), management would choose to disclose earnings forecasts on a voluntary basis. The objectives of such disclosures is either to convey information to the market that otherwise would not be available or to correct or augment or sometimes to confirm the available information.

## *(2) Comparative Accuracy of Management Earnings Forecasts*

Disclosure of management forecasts has also been supported on the premise that managements are in a better position to predict their future performance more accurately than any other forecasting agent.

Management have a data base which is not available to others, and management can also include exogenous factors which other forecasting agents do. Furthermore, management have control over their own operations, and they can adjust the plans according to the changed environment. Thus, these arguments strongly suggest that management should be capable of generating more accurate forecasts.

The expected better accuracy of management earnings forecasts has been tested by several studies. The findings of these studies show that management forecasts have been comparatively more accurate than forecasts developed by other forecasting agents, such as analyst forecasts published by the Value Line Service or Standard and Poor's Earnings Forecasts. The first important study was conducted by McDonald (1973). The results of this study indicated management overpredicted earnings by an average of 13.6 per cent. Later, Imhoff's (1978) study confirmed McDonald's findings. Additionally, Imhoff's study indicated that forecasting companies had significantly less variability in earnings than did a random sample of non-forecasting firms. He also found that the average systematic risk was significantly greater for forecasting firms compared to the average for the S&P 500 index, but no significant difference was detected for the systematic risk between forecasting and non-forecasting firms.

Basi, Carey and Tward (1976) compared management's and analysts' earnings forecasts, and found that management forecasts had an average error of 6 per cent compared to 8.8 per cent error for analyst forecasts. In 1980, Jaggi re-examined analyst and management forecasts, and his findings indicated a mean prediction error of 26.7 per cent for management forecasts compared to 28.3 per cent for analyst forecasts. The difference in the errors of the two groups was statistically significant. However, there was no statistically significant difference in the forecast errors of the two groups when analyst forecasts were developed after management forecasts were released.

## **V. Usefulness of Forecast Information for Developing Countries**

Before we examine the usefulness of forecast information for firms in the developing countries, and especially for India, we first evaluate the usefulness of such information in the industrialized countries, especially USA. The usefulness of forecast information can be examined by evaluating investors' reaction to publication of such forecasts. If investors do not find the forecast information useful for their decisions, then there is no reason for managements to publish this information.

One way of examining the usefulness of information will be to examine the market reaction to publication of management earnings forecasts. If earnings forecasts provide additional information, then investors' reaction to this information will be evident in adjustments to the security prices.

The first study on the impact of management's earnings forecasts was on stock prices conducted by Foster (1973), who explored the effect of the release of preliminary earnings after the firm's fiscal year end but before the release of audited financial statements. Though this study was not strictly based on the management earnings forecasts made over a long period of time, but the preliminary announcement of earnings had a forecast flavor. Foster's findings indicated that investors reacted to disclosure of preliminary earnings which suggested that investors perceived preliminary announcements of annual earnings to contain additional information.

The important study on the impact of management earnings forecast was conducted by Patell (1976). Patell used weekly price data and conducted the statistical test upon the assumption of normal distribution of weekly returns. Patell's findings indicated that there was statistically significant upward price adjustments during the week the forecasts were disclosed. He also found that upto two weeks before the release of an earnings forecast, the stock prices tended to move in the direction of the change of the forecast. The results, however, did not clearly indicate whether the upward movement in stock prices was due to information content of earnings forecasts or it was just the act of voluntary disclosure which triggered the movement in prices.

Because Patell's results depended upon the sensitivity to violation of the normality assumption, these results needed further study. Moreover, the reaction to earnings forecasts is expected to be on the days surrounding the disclosure date; dilution of this reaction might occur when monthly or weekly returns are employed. To overcome the weaknesses of Patell's study, Jaggi (1978) replicated Patell's study by using daily returns. Though daily returns may have greater inherent risk of including noise than weekly or monthly returns, their use was considered more appropriate for measuring the timeliness of the market's response. It was argued that forecasts were likely to elicit investors' reaction during the immediate period surrounding the release date, and this could be better captured through daily stock price movements. Jaggi's findings indicated that significant price adjustments were evident, suggesting that the disclosure of management earnings forecast might have caused investors to revise their expectations.

Jaggi's study also examined the impact of management earnings forecasts on investors' decision on an average basis by considering the negative and positive signals from the earnings forecasts. When management earnings forecasts exceeded an estimate of the investors' expectations, the signals were termed as positive; when management forecasts were below an estimate of the investors' expectations, signals were considered negative. The results of this test indicated that there

were some price adjustments around the announcement date of earnings forecasts. These results confirmed the expectation that voluntary disclosure of earnings forecasts may provide some additional information to investors which they would find useful for their investment decisions.

Nichols, Tsay and Larkin (1979) looked at the changes in the trading activity in the week of the earnings forecasts announcement. They assumed trading volume would indicate investors' perceptions of the information content of management earnings forecasts. Their results indicated that there was a change in the trading volume associated with the release of earnings forecasts. These results provided additional evidence that there was information content in the forecast announcements. The results also indicated that there was no significant relationship between the length of the forecast period and trading volume, which suggested that investors perceived longterm forecasts as being equal to the short term forecasts in information content.

Some researchers have argued that an intraindustry information transfer has also an impact on the stock prices of firms that do not disclose earnings forecasts. It has been suggested that management forecast disclosures of one firm may generate unexpected price reaction for firms which do not disclose forecasts but the nature of their activities is similar to those of forecast firms. This argument supports the expectation that price reaction to management forecasts is triggered by information on the firm's future earnings rather than the mere act of disclosure. A study by Baginski (1987) provided support to this expectation. The results of this study indicated that forecasts of disclosing firms provide important information for determining the price reaction of the similar type of nondisclosing firms. These results thus indicate that the effects of voluntary management forecast disclosures extend beyond the disclosing firm.

## **VI. Policy implications for Developing Countries**

The stock market reaction to disclosure of earnings forecast information demonstrates that investors consider information on the future performance of the firm to be important for firm valuation and for their investment decisions. The investment decisions, in turn, will have an impact on the development of capital markets and also on the optimal allocation of resources among different sectors of the economy. The results of several studies, some of them have been cited in this paper, on the other hand, provide strong support to the expectation that managements are in a better position to generate more accurate information on the future performance of the firms than any other forecasting agent. As a result of evidence presented by several studies, the Securities and Exchange Commission (SEC) as well as the American Institute of Certified Public Accountants (AICPA) strongly encouraged

managements of US corporation to disclose information on their earnings forecasts. Though disclosure of forecast is not required in the USA, but still quite a large number of firms disclose this information on a voluntary basis. In view of the nature of cultural, economic and political environments in the United States, and because of the well developed financial markets in the country, and higher dependence on voluntary development of Generally Accepted Accounting Principles and their implementation, mandatory disclosure requirements have not been considered necessary.

The environments in newly developed countries and developing countries, however, differ compared to the environments in the United States. The capital markets in the developing countries are not yet fully developed and investors need a strong encouragement to invest in stocks and shares. In order to enable investors to properly evaluate their risk and return, they should be provided with reliable and timely information to evaluate their investment strategies. Availability of information on the firms' future performance will encourage them to make investments in the stocks of these firms.

Furthermore, advances made in the information and computer technology have increasingly globalized the financial markets. The stock markets are attracting investors across national boundaries and capital is moving freely from country to country. In order to attract capital to the developing countries, it is critical that foreign investors are provided with relevant and timely information to develop their investment strategies, and are encouraged to invest in the stocks of companies from the developing countries. An important piece of timely and relevant information will be the predictions on the future performance of the firms. Thus, availability of information on earnings forecasts will facilitate the flow of funds between different countries and attract foreign capital to the developing countries.

In case of India, state enterprises are being privatized on a peacemeal basis. At this time, only certain percentage of ownership is being transferred to private owners through sale of shares in the stock market. Investors should be encouraged to buy shares of the state enterprises so that the process of further privatization of these enterprises can be accelerated. To encourage investors to buy shares in these companies, they should be provided with information on the firms' future performance so that they can evaluate their investment strategies.

Disclosure of forecast information on a voluntary basis, as is being done by the US companies, may not be a right solution for developing countries, especially India. In the developed countries, especially the USA, forecast information is regularly developed by several security analysts for each firm and it is readily available to investors. A well

developed system to generate forecast information outside the firm, is meeting the information needs of investors, and voluntary disclosure of forecast information by management supplements the forecast information available in the market. In the developing countries, a system for providing forecast information by sources other than managements of the firms either does not exist or it has not reached the level of sophistication that it can provide reliable information. Therefore, it is essential that forecast information developed by corporate management in the developing countries is made available to investors.

In order to achieve the objective of providing forecast information to investors, we suggest that the firms in the developing countries should be required to disclose forecast information on their future earnings either in their financial statements or through press releases. Disclosure of this information would be of great help in developing the capital markets in these countries and it will also provide a great impetus to the economic growth in the country. The regulatory bodies should, therefore, carefully examine this issue and they should make the disclosure of management forecast information mandatory.

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### **Indian Accounting Association Research Foundation Invites Research Proposals**

To encourage research in Accountancy the Indian Accounting Association Research Foundation (IAARF) invites research schemes from academics and/or professionals.

The Foundation proposes to provide financial assistance to a few selected research schemes up to a maximum of Rs. 30,000 each. Details of the schemes along with a short resume of the proposer and a statement of financial assistance needed should reach Dr. J. B. Sarkar, Secretary (Actg.) IAARF, 1, Graham's Land Extn., Calcutta 700 040, on or before 29th February, 1996.

## FORECASTING ANNUAL CASH FLOWS : THE EFFECTIVENESS OF SELECTED MULTIVARIATE MODELS

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This study provides evidence on the ability to forecast alternative cash flow measures using multivariate models. A sample of 250 firms was randomly drawn and data was gathered for the years 1973-1992. The results indicate that multivariate models had better predictability for future cash flows than random walk models.

### Introduction

In recent years, cash flow accounting has developed a widening constituency. While management accounting has long recognized the value of maximizing the net present value of future cash flows from a project, financial accounting until recently has been reluctant to accept cash flow accounting. However, when the Financial Accounting Standards Board (FASB) recently required that firms replace the Statement of Changes in Financial Position with the Statement of Cash Flows, financial accountants formally recognized the importance of cash flows to external users (FASB, 1987). With the FASB identifying cash flows as important information, there should be increasing concern among corporate managers and other decision makers to forecast annual cash flows.

In addition to the FASB in U.S.A., other national and international rule making bodies have issued standards of disclosure on cash flows (e.g. the ASB in the U.K., the OECCA in France, the AASB in Australia, and AISC worldwide). These standards on cash flow disclosure have generated added interest in research on the properties and usefulness of cash flow information [Bowen, Burgstahler, and Daley (1986); Bernard

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and Stober (1989); Board and Day (1989); El-Gazer and Zaumeyer (1990); Percy and Stokes (1992); Kinnunen and Niskanen (1993); and Franz, Siegel, and Figsby (1993)].

So far, inconsistent answers have emerged in this research. For example, Bernard and Stober (1989) failed to reject the null hypothesis of insignificant information content in cash flows, while Bowen et al. (1987) rejected this hypothesis. Percy and Stokes (1992) generally supported the findings of Bowen et al. (1987) but raised new questions about the propriety of the more refined measures in the task of predicting future cash flows. Franz et al. (1993) showed that cash flow information tended to be more closely associated with long term earnings than short term earnings. They argued that short term cash flow prediction errors may be attributable to the fact that such information may already be incorporated in the market price.

Lorek, Schaefer, and Willinger (1993) show that the time-series behaviour of cash flow series is in marked contrast to the models typically employed for accounting net income. They demonstrated that univariate time-series models of cash flow generate more accurate forecasts than the multivariate cross-sectional regression models used in prior studies. In this study, we provide further information on the relationship between cash flows and earnings.

The traditional cash budget has a short term orientation. The cash budgeting techniques which include an annual forecast of cash flow and earnings have been found to be highly correlated to annual cash flows. However, some firms find the cash budgeting process to be tedious and/or time-consuming. Therefore, if a firm desires to forecast annual cash flows without preparing a complete set of budgeted financial statements, the cash flow forecast is generated by using previous earnings data (Gombola and Ketz, 1983).

This study examines the ability to forecast annual cash flows using data from prior years. The approach of this paper finds support in the study conducted by Percy and Stoke (1992). Percy and Stokes studied Australian firms and found that :

- (1) there was low correlation between traditional cash flow measures (such as net income plus depreciation and working capital from operations) and a more refined measure of cash flow as utilized in Bowen et al. (1986);
- (2) the traditional cash flow measures are highly correlated with earnings; and
- (3) one and two period ahead forecasting models using traditional cash flow measures provide a better prediction of future cash flows than more refined cash flow measure.

Bowen et al. (1986) used univariate models to predict future cash flows because they maintained that there was no theory that specified a multivariate prediction model. Furthermore, they indicated that the available data was inadequate to empirically estimate a multivariate model. However, it has been pointed out that multivariate models are better suited to capturing time-series properties of cash flow information than are univariate models (Lev, 1989; Arnold, Clubb, Monson, and Wearing, 1991; Moses, 1991; and Kinnunen and Niskanen, 1993). Therefore, this study examines the ability of multivariate models to forecast future cash flows.

### **Data and Methodology**

The Financial Accounting Standards Board (FASB) has repeatedly maintained that past earnings are a better predictor of future cash flows than are past cash flows. Numerous studies have indicated that decision makers are concerned about the importance of forecasting annual cash flows (Bowen et al., 1986; Greenberg, Johnson and Ramesh, 1986; Ketz and Largay, 1987; Bernard and Stober, 1989; Kinnunen and Niskanen, 1993).

The empirical portion of this study used a random sample of 250 firms drawn without replacement from the Standard and Poor's Compustat Annual Industrial tapes for the years 1973-1992. The sample includes 165 industries based on the four digit SIC codes and forty nine industries in the two digit SIC codes. The sample contains both manufacturing and retailing firms.

A number of cash flow measures have been proposed in the literature (Drtina and Largay, 1985; Bernard and Ruland, 1989; Board and Day, 1989; Arnold et al., 1991; Kinnunen and Niskanen, 1993). The cash flow measures differ because of different users and uses of cash flow information. In addition, there is no empirical support for any one of these measures. Four alternative measures of cash flow: net income from operations plus depreciation and amortization (NIPD); working capital from operations (WCFO); cash flow from operations (CFFO); and cash flow from operations after changes in plant, property, and equipment (CFAP). All the cash flow measures can be calculated through adjustments to annual net income from operations (see the appendix for specific definitions of these measures).

Cross sectional Spearman's correlations for 1973-1992 were computed as an overall correlation of cash flow measures for all firms in the sample (as shown in Table 1).

**Table 1. Cross-sectional Spearman's Correlations  
(Significance Levels) of Cash Flow Measures Normalized  
by Total Assets**

	OPNI	NIPD	WCFO	CFFO	CFAP
Operating Net Income (OPNI)	1.0				
Operating Net Income Plus Depreciation (NIPD)	.9359 (.001)	1.0			
Working Capital from Operations (WCFO)	.8652 (.001)	.9088 (.001)	1.0		
Cash Flow from Operations (CFFO)	.5890 (.001)	.6460 (.001)	.6979 (.001)	1.0	
Cash Flow after Change in Plant, Property, and Equipment ( CFAP )	.5202 (.001)	.5006 (.001)	.5353 (.001)	.8826 (.001)	1.0

Each cash flow measure was divided by total assets in order to overcome correlations due to firm size. An examination of this table shows high correlations between operating net income (OPNI) and net income plus depreciation and amortization (NIPD), and working capital from operations (WCFO). The correlations between OPNI and cash flow from operations (CFFO) and cash flow after change in plant property and equipment (CFAP) are, however, moderate. These results are consistent with the results shown in Bowen et al. (1986) and Percy and Stokes (1992).

Spearman's correlations of the various cash flow measures for individual firms were determined for the years 1973-1992. Table 2 summarizes the results.

The correlations between OPNI and different cash flow measures are similar to the correlations shown in Table 1. When NIPD, the traditional cash flow measure, is correlated with other measures of cash flow, it can be seen that the refined cash flow measures are weak proxies for the traditional cash flow measures. Similar results were reported by Percy and Stokes (1992).

**Table 2. Time Series Analysis of Spearman's Correlations by Individual Firms**

Independent Variable(s)		Quantiles of Correlations for 250 firms						
	Number of Firms Insig.	Mean	10%	25%	50%	75%	90%	
OPNI and NIPD	10	.903	.781	.900	.976	1.0	1.0	
OPNI and WCFO	44	.752	.371	.679	.891	.975	1.0	
OPNI and CFFO	154	.318	-.30	.048	.400	.701	.900	
OPNI and CFAP	166	.232	-.40	-.07	.271	.569	.943	
NIPD and WCFO	38	.787	.428	.750	.924	.988	1.0	
NIPD and CFFO	144	.368	-.27	.152	.402	.694	.915	
NIPD and CFAP	168	.273	-.40	.029	.309	.556	.943	
WCFO and CFFO	130	.418	-.22	.200	.486	.771	.943	
WCFO and CFAP	170	.298	-.30	.061	.348	.633	1.0	
CFFO and CFAP	38	.795	.321	.738	.914	1.0	1.0	

### Model Development

Numerous studies have indicated that the relationship between economic variables is stable such that measures from a previous time period can provide predictions of like measures in future time periods (Schaefer and Kennelley, 1986; Bernard and Stober, 1989; Lorek, Schaefer, and Willinger, 1993; Franz et al., 1993). This study takes into consideration distinct accounting identities, such as NIPD=Operating Income + Depreciation and Amortization, in the development of cash flow expectations model.

Four groups of cash flow expectation models were analyzed. The adjusted  $R^2$  was used to evaluate the expectation models. For each cash flow measure and each expectation model, a time-series relationship was calculated separately for the firms in the sample and the adjusted  $R^2$ 's were compared. The forecast accuracy for individual firms is dependent upon the accuracy of the lagged annual earnings and cash flows. In order to minimize confounding errors, we used the actual earnings and cash flows for time "t" rather than a forecast. The results are impacted to the extent that forecasted earnings and sales differ from actual earnings and sales.

The four model groups selected for each cash flow measure were not intended to be an exhaustive representation of all possible models. The groups were chosen based upon the results of prior research and of the accounting identities of cash flow measures specified in the Appendix. The expectation models were selected due to their superior performance as evidenced in previous studies (Kinnunen and Niskanen, 1993; Percy and Stokes, 1992; Bowen et al., 1986). The prediction models can be expressed as follows :

$$E(Y_{i,t+1}) = X_{1,i,t} + X_{2,i,t} + X_{3,i,t} \quad (1)$$

$$E(Y_{i,t+2}) = X_{1,i,t} + X_{2,i,t} + X_{3,i,t} \quad (2)$$

**Table 3. Expectation Models for Operating Net Income plus Depreciation and Amortization (NIPD)**

Independent Variable(s)	Quantiles of Adjusted R <sup>2</sup> for 250 firms					
	Mean	10%	25%	50%	75%	90%
<b>One period ahead Forecasts :</b>						
NIPD	.514	-.15	.121	.681	.908	.979
OPNI DEP	.573	-.08	.309	.732	.932	.976
SALES DEP	.594	-.05	.298	.770	.922	.975
OPNI SALES DEP	.607	-.13	.408	.811	.941	.984
OPNI NIPD	.573	-.09	.306	.733	.932	.976
SALES NIPD	.579	-.11	.283	.762	.927	.976
OPNI SALES NIPD	.606	-.13	.376	.813	.941	.984
<b>The period ahead Forecasts :</b>						
NIPD	.507	-.15	.093	.640	.896	.976
OPNI DEP	.544	-.12	.240	.721	.924	.973
SALES DEP	.581	-.08	.298	.759	.915	.971
OPNI SALES DEP	.590	-.07	.378	.778	.937	.981
OPNI NIPD	.541	-.12	.230	.714	.923	.973
SALES NIPD	.553	-.13	.225	.726	.921	.975
OPNI SALES NIPD	.589	-.10	.370	.775	.940	.983

Four groups of expectation models were developed which use different accounting identities to measure cash flows. Since some cash flow measures are highly correlated with earnings, it was anticipated that current year's earnings could be a significant factor in predicting future cash flows.

The first group of expectation models uses operating net income plus depreciation (NIPD) as the predicted variable which is forecasted for one and two period ahead respectively.

**Table 4. Expectation Models for Cash Flow after change in Plant, Property, and Equipment (CFAP)**

Independent Variable(s)	Quantiles of Adjusted R <sup>2</sup> for 250 firms					
	Mean	10%	25%	50%	75%	90%
<b>One period ahead Forecasts :</b>						
CFAP	.134	-.21	-.07	.041	.340	.909
OPNI NETPLANT	.133	-.04	-.11	.149	.429	.762
SALES NETPLANT	.164	-.26	-.10	.145	.445	.927
OPNI SALES NETPLANT	.151	-.39	-.10	.178	.452	.748
OPNI CFAP	.133	-.44	-.11	.149	.429	.762
SALES CFAP	.146	-.29	-.12	.133	.419	.796
OPNI SALES CFAP	.151	-.39	-.10	.178	.452	.748
<b>Two period ahead Forecasts :</b>						
CFAP	.140	-.21	-.07	.043	.388	.650
OPNI NETPLANT	.176	-.31	-.09	.169	.489	.791
SALES NETPLANT	.203	-.24	-.06	.146	.487	.757
OPNI SALES NETPLANT	.180	-.27	-.07	.223	.491	.745
OPNI CFAP	.176	-.31	-.09	.169	.489	.791
SALES CFAP	.178	-.27	-.09	.150	.460	.779
OPNI SALES CFAP	.180	-.27	-.07	.223	.491	.745

Table 3 indicates that for cash flow defined as NIPD, all identities had high adjusted R<sup>2</sup>'s but the multivariate models had the highest adjusted R<sup>2</sup>'s. For the one period ahead forecast, the multivariate version of the model had mean adjusted R<sup>2</sup>'s ranging from .573 to .607 (median .732

to .913). Similar results were found for the two period ahead forecasts where the mean adjusted R<sup>2</sup>s for multivariate models had values from .544 to .590 (median : .714 to .778).

The second group of models utilized working capital from operations (WCFO) as the dependent variable. The results were similar to those observed in the first models.

For both the one and two period ahead forecasts, the mean adjusted R<sup>2</sup>s of multivariate models were higher than the adjusted R<sup>2</sup>s for the random walk model.

Cash flow from operations (CFFO) was the dependent variable.

Even though the mean adjusted R<sup>2</sup>s were much lower than the models shown in Table 3, the multivariate models exhibited higher mean adjusted R<sup>2</sup>s than the random walk model.

In the final model group, the multivariate models for the most part had higher mean adjusted R<sup>2</sup>s. For the two period ahead forecast, the multivariate models had in all cases mean adjusted R<sup>2</sup>s.

The statistical significance of the median adjusted R<sup>2</sup>s for each cash flow variable is presented in Table 5 using Friedman's test of equality.

**Table 5. Friedman Tests of the Null Hypothesis that, for each Cash Flow Variable, the Median Adjusted R<sup>2</sup> are equal**

Cash Flow Variable	One Period Ahead		Two periods Ahead	
	Chi-sq.	Signif.	Chi-sq.	Signif.
NIPD	1.84	.0889	1.41	.2081
WCFO	1.72	.1134	1.30	.2519
CFFO	3.07	.0054	2.13	.0479
CFAP	3.08	.0054	2.13	.0479

In the case of NIPD and WCFO, the Friendman test did not indicate that there were any significant differences among the median adjusted R<sup>2</sup>s. For the variables, CFFO and CFAP, the null hypothesis of equality was rejected for both one period and two period ahead forecast at .01 level and .05 level respectively. These results indicate that the multivariate models performed better in predicting future cash flows than the random walk models. This is particularly evident for CFFO and CFAP.

## Conclusion

The extant literature indicated that there is no established theory to specify the exact nature of a multivariate model to forecast cash flows. This study examined the value of multivariate models based on commonly developed cash flow forecasts.

The results of this study provide evidence that support the desirability of using multivariate models for forecasting cash flows. Using data from a random sample of 250 American companies for the time period 1973-1992, the study found that :

1. There are higher correlations between different cash flow measures i.e. NIPD, WCFO, CFFO, and CFAP.
2. Multivariate cash flow models had higher adjusted R<sup>2</sup>s in forecasting than the benchmark random walk.
3. The multivariate model performed better for the CFO and CFAP measures of cash flow.

These results have important implications about the merits of using multivariate models for annual cash flows. It also raises some questions about the position taken by FASB regarding the superiority of past earnings in the task of predicting future cash flows.

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## Appendix

### *Definitions of cash flow variables :*

- a. NIPD = Operating net income plus depreciation and amortization
- b. WCFO = Working capital from operations
- c. CFFO = Cash flow from operations
- d. CFAP = Cash flow after change in plant property and equipment
- e. SALES = Sales revenue
- f. DEP = Depreciation plus amortization
- g. OPNI = Operating net income
- h. WCA = Working Capital Accounts WCA = WCFO - OPNI
- i. CFA = Cash flow accounts CFA = CFFO - OPNI
- j. NETPLANT = Net change in plant investment  
NETPLANT = CFAP - OPNI.

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## CORPORATE CHARACTERISTICS AND EXTENDED CORPORATE REPORTING - SOME INDIAN EVIDENCE

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This article is a sequel to Vasal (1994) and Vasal (1995) identifying determinants of, respectively, social and financial reporting in India. In the present research paper an attempt has been made at identifying determinants of extended corporate reporting (ECR) in India. The author concludes that the level of significance as well as the relative importance of the determinants of extended corporate reporting are quite different from those of extended social and extended financial reporting in India having its implications for using the precise definitions of the concepts of social, financial, and corporate reporting in the empirical studies conducted hereafter.

### Introduction

Broadly speaking, business objectives can be classified into two major categories, namely financial and social. While the financial objectives relate to commercial and financial performance, the social objectives are concerned with the social performance of a business entity. In this background, Vasal (1994, 1995) has proposed that concepts of financial and social reporting should, respectively, correspond to financial and commercial objectives, and social objectives of the businesses. Accordingly, the above cited studies have marshalled some empirical evidence on the likely determinants of intercorporate variations in financial and social reporting. Notably, both the studies have examined the impact of same set of explanatory variables with values of each explanatory variable determined using the common database. With same values of the likely determinants, whereas Vasal (1994) has identified size and age of a company as the most important determinants of social reporting in the stated order of variables, the most significant determinant of financial reporting in Vasal (1995) is identified as the Review of Accounts by the Comptroller and Auditor General (C&AG) of India<sup>1</sup>.

It is argued here that since financial and social objectives are sub-sets of the overall business objectives, the financial and social reporting, in turn, are sub-sets of the overall business reporting. In this backdrop,

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1 At 1 per cent level of significance.

therefore, it is quite likely that factors identified as significant determinants, as also the order of their importance, in explaining the financial and social reporting sub-sets may be different from those likely for the business (corporate) reporting as a whole. In fact, an empirical testing of this proposition forms the basis of the present study. More specifically, objectives of the present research paper are two-fold. First, the study has made an attempt to identify some significant corporate characteristics that explain the observed inter-corporate variations in corporate reporting through the medium of corporate annual reports (CAR). Second, the set of identified determinants of corporate reporting has been compared with those found for social and financial reporting in Vasal (1994) and Vasal (1995), respectively.

## **Methodology**

### *Approach to the Problem*

The problem of measuring and analyzing inter-corporate differences in corporate reporting can be approached in two different ways. Under the first approach corporate reporting is defined in terms of all such disclosures in an annual report which pertain to the issues covered within the ambit of corporate reporting. However, a serious shortcoming of this approach is that it does not make a distinction between statutorily required and non-statutorily required disclosures. As an alternative, corporate reporting can be defined in terms of non-statutorily required disclosures only, termed Extended Corporate Reporting (ECR) in this study. The rationale for adopting this alternative approach is that corporate entities, by and large, tend to conform to the governing corporate laws. Moreover, requirement of statutory audit [and a supplementary audit of public sector companies by the Comptroller and Auditor General (C&AG) in India] further ensures that all applicable provisions of the corporate laws are observed diligently by the companies. Thus, inter-corporate variations in reporting, if any, would generally relate only to disclosures not mandated under the laws. In view of this, in the present paper, this alternative approach has been followed in isolating the determinants of corporate reporting in India.<sup>1</sup> Moreover, ECR is a better indicator of enlightened self-regulation by a company.

### *Regression Model*

In order to identify company characteristics explaining inter-corporate variations in ECR, a multiple regression model has been designed. The

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1 In terms of 'disclosure index' method absolute differences between companies under either approach would be the same. However, values of intercorporate variations in corporate reporting are stated in a narrower range when they are expressed as ratios under the former method.

designed model expresses ECR as a function of variables representing varying financial characteristics and diverse socio-cultural milieu of sample companies. The form of equation used for estimating the functional relationship is :

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_j X_j + e$$

where,

$Y$  = VOLINDEX = extended corporate reporting score,

$a$  = intercept,

$b_j$  =  $b_6$  to  $b_{23}$  = regression coefficients for industry dummies,

$b_1$  to  $b_{23}$  = regression coefficients,

$X_1$  = SIZE = Size of a company,

$X_2$  = GOVTAGE = Age of a company,

$X_3$  = ROTA = Profitability,

$X_4$  = NOCGREV = Review of accounts by C&AG (Dummy variable),

$X_5$  = ICAI = Best presented accounts competition (Dummy Variable),

$X_j$  =  $X_6$  to  $X_{23}$  = DPE1 to DPE18 (Industry Dummy variables), and

$e$  = regression residual.

In the foregoing model, like Vasal (1994, 1995), 23 explanatory variables are used to explain the behaviour of dependent variable. Amongst the explanatory variables, variables  $X_1$  to  $X_3$  are quantitative while the others,  $X_4$  to  $X_{23}$ , are qualitative (dummy) variables. Since sample companies have been divided into nineteen industry-groups, the industry variable has resulted into eighteen dummy variables DPE1 to DPE18 [see Vasal (1994) for details].

#### *Sample and Data*

The present study is based on a sample of companies selected from the Indian Public Sector. A choice for central public sector companies (CPSC) has been made for the reasons given in Vasal (1994). In the study, based on the availability of annual reports for four cross-sectional years 1988 to 1991<sup>1</sup>, a sample of 129 CPSC is taken. The industrywise grouping of companies, using industry classification adopted by the Department of Public Enterprises (DPE) in 1990-91, is given in Vasal (1994).

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1 The cross-sectional year 1988 to 1991 correspond to the fiscal years 1987-88 to 1990-91. A fiscal year begins on April 1 and ends on March 31. At the time of collection of data 1990-91 was the latest year for which annual reports were available.

### **Data Problems**

In the study, a serious problem was noticed at the time of measuring some of the selected financial variables for the sample year 1989. The problem related to a change in the accounting period resorted to by six sample companies. Owing to this, operating data for these six companies especially on flow variables like turnover, net profits etc. have lacked comparability both on an inter-period and on an inter-corporate basis. In order to remedy this problem data on flow variables for the above said six companies were annualised by using appropriate adjustment factors.

### **Variables**

#### **Dependent Variable – Corporate Reporting Score (VOLINDEX)**

Like Vasal (1994, 1995), quantum of information disclosure in annual reports has been measured by using the 'disclosure index' method. Significantly, this method has been used widely in the similar kind of research studies conducted all across the world. To operationalize the selected method the following steps are taken. First, a list of sixty-five items that relate to various aspects of corporate reporting has been prepared<sup>1</sup>. Second, using 'modified dichotomous approach', corporate reporting score for a company is defined and measured as a ratio of the number of items disclosed to what was expected to be disclosed by the company concerned.

#### **Independent Variables**

As stated above, the present study employs 23 explanatory variables in the designed regression model. These variables are same as those examined in Vasal (1994) and Vasal (1995). For the sake of brevity, details on definitions and measurements of these variables have been omitted<sup>2</sup>. Notably, the hypothesized relationship of each of these variables with the corporate reporting scores are same as those discussed in Vasal (1994).

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1 In the present study all disclosures related to aspects covered under the ambit of financial and social reporting have been included in the construction of the disclosure index. Also, those items which could not be classified in either of the two sub-sets of reporting due to lack of clarity or possible overlapping, and the items in the nature of general reporting have been considered in defining and measuring the corporate reporting as a whole. The list of items included in the disclosure index is available with the author.

2 Those interested in the detailed definitions and measurements of independent variables may refer to Vasal (1994).

## Empirical Results and Discussion

The detailed results of regression model specified above are given in Table-1. The results are for the four sample years 1988 to 1991. Further, a comparative statement on the direction and significance of the examined explanatory variables has been presented for corporate as well as social and financial reporting scores in Table-2. In the following paragraphs, results obtained in this study on the corporate reporting scores have been analyzed along with a comparison of the same with those found in Vasal (1994) and Vasal (1995) for, respectively, social and financial reporting scores.

Results presented in Table-1 show that coefficients of SIZE, GOVTAGE, and ROTA are positive in all the years. NOCGREV has negative coefficients over the entire sample period. Table-2 shows that the aforesaid results on the direction of behaviour of independent variables are same as those reported in Vasal (1994) and Vasal (1995). Over the period of study, coefficients of the other two variables too, with odd exception, have signs comparable with those found in Vasal (1994) and Vasal (1995). Whereas, ICAI has a positive sign in all years in the present study and in Vasal (1994), this variable had positive coefficient in all years except 1989 in Vasal (1995). Like Vasal (1995), coefficients of DPE1 to DPE18 (Industry dummies) are consistently negative in all sample years and for all industries except DPE14 ('Transportation Services' industry) which has a positive coefficient in 1990. In contrast, Vasal (1994) had shown that industry dummies were generally negative with the following exceptions—DPE1 ('Steel' industry) in 1991; DPE4 ('Petroleum' industry) in 1990 and 1991; and DPE14 ('Transportation Services' industry) in 1990. Thus, coefficients of all independent variables have expected signs in the present study and are also in general agreement with those in Vasal (1994) and Vasal (1995), of course with above noted exceptions.

For corporate reporting scores, Table-1 shows that coefficients of SIZE, GOVTAGE, and NOCGREV are highly significant in all sample years. The coefficients of all the three variables are found significant at 1 per cent level in all years. As against this, in Vasal (1994) regression coefficients of only SIZE and GOVTAGE were highly significant at 1 per cent level in all the sample years. And NOCGREV had non-significant coefficient in all sample years even at 5 per cent level of significance and at 10 per cent level in all years except 1989. In Vasal (1995), coefficients of NOCGREV alone are significant at 1 per cent level in all the years, with coefficients of SIZE and GOVTAGE being significant at 1 per cent level for 3 of the 4 years. In the odd year (SIZE in 1990 and GOVTAGE in 1991), coefficients of the said variables are, however, found significant at 5 per cent level. Further, like Vasal (1994), coefficients of ICAI are observed significant at 1 per cent level in 1990 and 1991, and

**Table 1. Multiple Regression Analysis**

<b>Dependent Variable</b>		<b>VOLINDEX</b>	<b>Number of Observations</b>		<b>129</b>
Variable	Expected Sign	1991 Coefficient (t-values)	1990 Coefficient (t-values)	1989 Coefficient (t-values)	1988 Coefficient (t-values)
ONE		0.1458 (1.394)	0.1127 (1.176)	0.1406 (1.422)	0.1553 (1.701)
SIZE	(+)	0.0260 (4.404)	0.0272 (4.949)	0.0297 (5.311)	0.0297 (5.655)
GOVITAGE	(+)	0.0679 (4.016)	0.0705 (4.830)	0.0688 (4.625)	0.0585 (4.548)
ROTA	(+)	0.0367 (1.904)	0.0537 (1.988)	0.0759 (2.262)	0.0777 (1.813)
NOCGREV	(-)	-0.0884 (3.537)	-0.0887 (3.935)	-0.0919 (3.957)	-0.0825 (3.860)
ICAI	(+)	0.0692 (3.075)	0.0604 (3.251)	0.0039 (0.193)	0.0332 (1.714)
DPE1	(?)	-0.0607 (0.810)	-0.0697 (0.978)	-0.0854 (1.184)	-0.0866 (1.250)
DPE2	(?)	-0.1133 (1.607)	-0.1097 (1.639)	-0.1580 (2.289)	-0.1576 (2.350)
DPE3	(?)	-0.1247 (1.762)	-0.1097 (1.642)	-0.1556 (2.211)	-0.1394 (2.079)
DPE4	(?)	-0.1048 (1.458)	-0.1111 (1.619)	-0.1195 (1.685)	-0.1146 (1.656)
DPE5	(?)	-0.0954 (1.329)	-0.1138 (1.667)	-0.1447 (2.030)	-0.1441 (2.095)
DPE6	(?)	0.1198 (1.692)	-0.1126 (1.680)	-0.1509 (2.160)	-0.1543 (2.275)
DPE7	(?)	-0.0708 (0.975)	-0.0636 (0.940)	-0.1059 (1.496)	-0.1241 (1.817)
DPE8	(?)	-0.1705 (2.333)	-0.1449 (2.104)	-0.1712 (2.394)	-0.1890 (2.733)
DPE9	(?)	-0.1056 (1.476)	-0.0960 (1.408)	-0.1310 (1.849)	-0.1259 (1.845)
DPE10	(?)	-0.1364 (1.921)	-0.0856 (1.279)	-0.1262 (1.804)	-0.1351 (2.033)
DPE11	(?)	-0.1443 (1.685)	-0.1767 (2.029)	-0.1743 (1.948)	-0.1478 (1.706)
DPE12	(?)	-0.2024 (2.799)	-0.1874 (2.757)	-0.2290 (3.195)	-0.2225 (3.241)
DPE13	(?)	-0.1420 (1.894)	-0.1169 (1.646)	-0.1474 (2.004)	-0.1378 (1.950)
DPE14	(?)	-0.0523 (0.615)	0.0223 (0.289)	-0.0668 (0.795)	-0.1081 (1.384)
DPE15	(?)	-0.1730 (2.201)	-0.1568 (2.126)	-0.1997 (2.624)	-0.1834 (2.518)
DPE16	(?)	-0.1580 (2.056)	-0.1080 (1.487)	-0.1525 (1.993)	-0.1474 (2.018)
DPE17	(?)	-0.1965 (2.474)	-0.2033 (2.640)	-0.2052 (2.563)	-0.2184 (2.838)
DPE18	(?)	-0.1405 (1.821)	-0.1202 (1.616)	-0.1425 (1.857)	-0.1126 (1.521)
Adjusted R - Squared		0.6905	0.7057	0.6762	0.7031
F(23, 105)		13.4164	14.3444	12.6228	14.1770

**Table 2. Comparative Statement on the Significance of Explanatory Variables**

Number of Observations 129

Variable	Dependent Variable						
	Sign	SOCINDEX	FININDEX	VOLINDEX	Coeff. Sign	Coeff. Significance	Coeff. Significance
SIZE	(+)	1098	****	1098	*+**	1098	****
GOVTAGE	(+)	1098	****	1098	+***	1098	****
ROTA	(+)	1098	?+?	1098	@???	1098	@++@
NOCGREV	(-)	1098	?@?	1098	****	1098	****
ICAI	(+)	1098	**?@	10#8	+@??	1098	**?@
DPE1	(-)	#098	????	1098	????	1098	????
DPE2	(-)	1098	?@@?	1098	@@@@?	1098	?++
DPE3	(-)	1098	????	1098	*+++	1098	@@++
DPE4	(-)	##98	????	1098	+*+@	1098	?@??
DPE5	(-)	1098	?++	1098	????	1098	?@++
DPE6	(-)	1098	????	1098	++@?	1098	@@++
DPE7	(-)	1098	?@+	1098	????	1098	????@
DPE8	(-)	1098	?@+	1098	++@?	1098	++*
DPE9	(-)	1098	?@+	1098	????	1098	?@??
DPE10	(-)	1098	?@?	1098	+???	1098	@?@+
DPE11	(-)	1098	?@ @	1098	@@@@?	1098	@+@@
DPE12	(-)	1098	++**	1098	+@+@	1098	****
DPE13	(-)	1098	?@@?	1098	????	1098	@@+@
DPE14	(-)	1#98	????	1@98	????	1#98	????
DPE15	(-)	1098	@@**	1098	@@@@?	1098	++*+
DPE16	(-)	1098	?@@?	1098	+???	1098	+?++
DPE17	(-)	1098	@@++	1098	+++?	1098	+*+*
DPE18	(-)	1098	?+@?	1098	++@?	1098	@?@?

Legend : Sign of Coefficients

1 — expected sign in 1991

Significance of Coefficients

\* — significant at 0.01 level

0 — expected sign in 1990

+ — significant at 0.05 level

9 — expected sign in 1989

@ — significant at 0.10 level

8 — expected sign in 1988

? — non-significant at 0.10 level

# — non-expected sign in 1, 0, 9 or 8

Dependent Variables :

SOCINDEX — Social Reporting Score (Vasal, 1994)

FININDEX — Financial Reporting Score (Vasal, 1995).

VOLINDEX — Corporate Reporting Score (Present Study).

at 10 per cent level even for the year 1988. However, in Vasal (1995), coefficients of ICAI were found significant only in 1990 and 1991 at 10 per cent and at 5 per cent levels, respectively. For ROTA, regression coefficients in the present study are significant at 5 per cent level for the years 1989 and 1990. For the other two years also the coefficients are significant though at 10 per cent level. In contrast, Vasal (1994) has found coefficient of ROTA significant only in 1989 at 5 per cent level of significance. In Vasal (1995) also coefficients of ROTA were non-significant at 5 per cent level in all the sample years. It has only in 1991 that the coefficient of ROTA was significant at 10 per cent level. In a nutshell, analysis of empirical results has revealed a dissimilar set of statistically significant determinants of extended corporate reporting vis-a-vis social and financial reporting. To sum up, the salient features of the above discussion are as follows. First, Corporate size, Age of a company, and Review of Accounts by C&AG are the three most important determinants of the inter-corporate variations in extended corporate reporting. Second, profitability explains the corporate reporting scores significantly on a consistent basis. Third, participation of companies in Best Presented Accounts Competition in general does appear to be an important determinant of the extent of corporate reporting. Fourth, in comparison with the results on determinants of extended social reporting and extended financial reporting discussed in Vasal (1994) and Vasal (1995) profitability is a significant determinant of inter-corporate variations in corporate reporting scores.

On the significance of 18 industry dummy variables, the following results are obtained on a consistent basis. First, unlike Vasal (1994) and Vasal (1995), one industry – 'Textiles' – has its regression coefficients significant at 1 per cent level of significance in all sample years. Second, three industries – 'Medium and Light Engineering', 'Contract and Construction Services' and 'Tourist Services' – have their regression coefficients significant at 5 per cent level in all the sample years. In comparison, only 'Textiles' industry had statistically significant coefficients at 5 per cent level in all the sample years for social reporting scores in Vasal (1994). In Vasal (1995) also only one industry – 'Coal and Lignite' – has highly significant regression coefficients at 5 per cent level in all sample years. Third, at 10 per cent level of significance, regression coefficients for four industries – 'Coal and Lignite', 'Chemicals and Pharmaceuticals', 'Agro-based Industries', and 'Trading and Marketing Services' – are significant in all the sample years. In Vasal (1994), two industries with similar results were 'Contract and Construction Services', and 'Tourist Services'. In Vasal (1995) four industries – 'Petroleum', 'Chemicals and Pharmaceuticals', 'Medium and Light Engineering', and 'Textiles' – were found having their regression coefficients significant at

10 per cent level in all years. Fourth, at 10 per cent level, coefficients of only two industries – 'Steel' and 'Transportation Services' – are statistically non-significant for all the sample years. In Vasal (1994), however, five industries – 'Steel', 'Coal and Lignite', 'Petroleum', 'Chemicals and Pharmaceuticals', and 'Transportation Services'—have shown similar results. In Vasal (1995) also as many as six industries—'Steel', 'Fertilizers', 'Heavy Engineering', 'Transportation Equipment', 'Trading and Marketing Services' and 'Transportation Services' – have their coefficients statistically non-significant at 10 per cent level in all the sample years. Therefore, it follows that only for two industries – 'Steel' and 'Transportation Services' – regression coefficients are statistically non-significant at 10 per cent level for not only the overall corporate reporting scores but also the financial and social reporting scores. Fifth, eight industries have shown mixed results on the significance of their regression coefficients over the sample years in this study versus ten and seven industries identified in Vasal (1994) and Vasal (1995), respectively. To conclude, at 10 per cent level of significance, implications of the results discussed on industry dummies are : (i) consistently significant negative coefficients of eight industries imply that reporting by companies in these industries is relatively lower than others. The corresponding number of industries is three and five in Vasal (1994) and vasal (1995), respectively. (ii) Non-significant coefficients of two industries – 'Steel' and 'Transportation Services'—suggest that reporting by companies in these industries is not significantly different from 'Telecommunication Services' industry (industry for which all the 18 industry dummies are zeros). In Vasal (1994) and Vasal (1995), respectively, five and six such industries were identified, with 'Steel' and 'Transportation Services' being common to all the three studies. (iii) Mixed results on significance for coefficients of eight industries do not permit making of any generalizations on the reporting behaviour of relevant companies. In Vasal (1994) and Vasal (1995) the number of such industries is ten and seven, respectively. Thus, industry dummies have isolated eight industries that have consistently lower corporate reporting scores. These are 'Coal and Lignite', 'Chemicals and Pharmaceuticals', 'Medium and Light Engineering', 'Agro-based Industries', 'Textiles', 'Trading and Marketing Services', 'Contract and Construction Services' and 'Tourist Services'. Three industries identified in Vasal (1994) having consistently lower social reporting scores were 'Textiles', 'Contract and Construction Services' and 'Tourist Services'. Similarly, five industries so identified for financial reporting scores were 'Coal and Lignite', 'Petroleum', 'Chemicals and Pharmaceuticals', 'Medium and Light Engineering', and 'Textiles'. Notably, only 'Textiles' industry is common to all the three studies showing significantly lower social, financial as well as corporate reporting scores.

The overall significance of relationship between corporate reporting scores and six explanatory variables has been assessed in terms of adjusted R-square and F-test values. The observed values of adjusted R-squared indicate that 68 to 71 per cent variation in corporate reporting is explained by the independent variables. F-values, showing significance of the overall regression model, have also been found significant at 1 per cent level for all sample years, thus implying a statistically significant relationship between disclosures on corporate reporting items and the selected explanatory variables.

### **Conclusions**

The present research study is a pioneering effort in identifying some fundamental factors which affect extended corporate reporting in India. Using a multivariate analysis framework, the main empirical conclusion of the study is that Corporate size, Age of a company, Review of Accounts by C&AG and Nature of Industry are the most important determinants of extended corporate reporting in India. Unlike Vasal (1994) and Vasal (1995), however, profitability also appears to be an important determinant of the corporate reporting. Also, the results have shown that levels of significance as well as the relative importance of the identified determinants of extended corporate reporting are quite different from those of the extended social and extended financial reporting. The aforesaid conclusions have their implications for the semantic theories of accounting in that while defining such accounting terms as social, financial, and corporate reporting a strict view of the said terms needs to be taken.

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**ACCOUNTING EDUCATION IN DEVELOPING COUNTRIES :  
PERCEPTIONS OF INTERESTED PARTIES AND CULTURAL  
INFLUENCES—A CASE STUDY OF PAPUA NEW GUINEA**

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This study analyses the perceptions of three interested parties in the accounting profession : accountants in practice; accounting academics; and accounting students; with regard to issues concerning aims and objectives and inputs for accounting education in Papua New Guinea. The impact of various cultural factors on the perceptions of the interested parties are also analysed. The results of the empirical survey suggest that there are differences between the three interested parties and that these are related to cultural factors. Finally, the implications of the results for a policy for accounting education in developing countries generally, and particularly in Papua New Guinea, are discussed.

### **Introduction**

The literature on accounting systems and related accounting education issues in developing countries such as Papua New Guinea (PNG) is primarily descriptive. Discussion is found of the factors that influence the systems in these countries including colonial, international, local and others (for example, regional influences). Even though many developing countries are independent nations, the accounting systems imposed by the colonial powers are reinforced by international factors (e.g., transnational corporations, international accounting firms, aid conditions and education). Local influences tend to be weak (Hove, 1986; Tipgos, 1987; Yunus, 1990a : Banerjee 1992A). As Tipgos (1987; 383-384) noted :

*As vestiges of the colonial past begin to disappear in many developing countries, one area of endeavour which appears to have difficulties in severing the bond is accounting. Today, as in the past, the accounting profession is dominated by foreign philosophy, which may have little or no relation to the social, economic and political realities of those nations.*

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The accounting system within a country influences the accounting education system. The accounting education system enforces the principles and practices through the education of accountants. In turn, the accounting graduates reinforce that accounting system through training and continuing education with the organisations in which they are employed, professional organisations of which they are members and follow the norms and practices of the society of which they are a part (Yunus, 1990b).

A policy on accounting education for PNG requires consideration of perceptions of various interested parties. Since accounting education for membership of the profession in PNG takes place at university level, the perceptions of university academics and students are considered as well as those of accountants in practice.

Policies must consider selected aims and objectives and input issues of accounting education in Papua New Guinea in order to maximise output. The perceptions of the three interested parties on selected aims and input issues form the basis of the study which is the first attempt to provide empirical evidence about accounting education issues in PNG to enable improvement of accounting education in the country. In this study, the main output is seen as being accounting graduates, going into employment in different accounting fields, joining accounting professional bodies and contributing to the welfare of the society. The quantity and quality of graduates produced will affect the status of the local accounting profession and staffing problems faced in developing countries including PNG. If the aims and objectives are identified and inputs into the accounting education system and the processing unit are improved, the system may be more efficient in the production of graduates needed in PNG.

The perceptions are tested, first of all, for between group differences (the three interested parties) and secondly for between subgroup differences where the perceptions of those involved are used to test selected cultural issues as found in Hofstede's (1980, 1983) work on national culture and work related values. He noted three cultural issues that can influence the perceptions of individuals on work related values. They are national culture; organisational culture and occupational culture. Secondly, therefore, this study investigates which of several, selected cultural issues affect the perceptions of accountants in practice, accounting academics and accounting students regarding accounting education issues in PNG.

The following section of this article deals with perceptions regarding aims and objectives and inputs into national accounting education programs. The discussion in this section leads to the formulation of hypotheses for the empirical study, the nature of which is then described in the section on method. The final sections present the results of the study and the conclusions which flow from them.

## **Perceptions Regarding Aims and Objectives and Inputs into National Accounting Education Program**

Studies relating to examining perceptions of different groups regarding accounting and financial issues have increased in recent years. Most of these studies examine these issues from cross-cultural perspective or within a country. The cross-cultural perspective involves groups in two or more different countries. Within country studies involve the perceptions of different groups within that country. A within country study could involve cross-cultural studies involving people from different countries or regions in that country (Hofstede, 1983).

Few studies have examined perceptions regarding aims and objectives and inputs into national accounting education systems. Most of the accounting education studies are descriptive, examining specific problems related to accounting profession and education in both developed and developing countries (including PNG). Abdoelkadir (1982) studied the perception of accountants in practice, accounting academics and accounting students regarding general issues of accounting education and profession in Indonesia. In this study, perceptions of specific issues related to aims and inputs into university level accounting education are examined.

In the following sub-section, various studies of perceptions are examined. This will provide support for the measurement scale and statistical techniques used in this study. This will also justify the selection of cultural issues (background and characteristics) to test the perceptions of the three interested parties.

### *Within Country Studies*

Holland and Arrington (1987) examined issues that influence accounting faculty in the US to relocate. Cohen et al (1991) looked at the attitudinal factors affecting the coverage of international accounting courses in the undergraduate accounting curricula in the US. An analysis was conducted from department chairpersons and members of the international section of the American Accounting Association using an attitude model adopted from the psychology literature. Reed and Kratchman (1989) examined the differences in the perceptions of US accounting students and graduates concerning the importance of various job attributes. A similar study was conducted by Carcello et al (1991). Pabst and Talbott (1991) analysed the perceptions of Certified Management Accountants (CMA) in the US regarding the present standard of CMA examinations. Ferguson and Orpen (1991) looked at the perceptions of universities and college students to working with computers in Australia. Poe and Viator (1990) examined US university administrators perceptions of the relative importance attached to research, teaching and

other services in evaluating accounting faculties. Peel et al (1991) analysed the perceptions of two groups of accounting students in a British university regarding the understanding of accounting concepts. McLanen (1990) examined practicing accountants and accounting academics in New Zealand regarding communication skills needed by accountants and Tan and Choo (1990) examined the impact of deep-elaborative versus shallow-reiterative information processing on students academic performances in Australian universities.

#### *Cross-cultural Studies*

Belkaoui and Picur (1991) examined the perceptions of a group of Canadian, American and British members of an international accounting firm regarding a set of accounting concepts. Barnir and Elitzur (1989) analysed the perceptions of Certified Practicing Accountants (CPAs) in Israel and the USA regarding Generally Accepted Accounting Principles (GAAP) for closely held corporations and small businesses. Welton and Davis (1990) looked at the perceptions of American and New Zealand accounting students regarding professional ethics. Karnes et al (1990) analysed the perceptions of accountants in Taiwan and the USA regarding unethical business practices. Harrison (1992) examined the relationship between participation, budget emphasis and job related attitudes of middle level managers in Australia and Singapore and Hofstede (1980, 1983) analysed the perceptions of employees of a multinational corporation in fifty countries and three regions regarding work related values.

Hofstede (1980 : 25) defined culture as :

*Collective programming of the mind which distinguishes the members of one human group from another.*

In an attempt to develop acceptable, well defined and empirically based terminology to describe culture, Hofstede (1987) identified four distinct dimensions which were considered to reflect the cultural orientation of a country. They were : (1) power distance, (2) Uncertainty avoidance; (3) individualism; and (4) masculinity. Of the four, power distance and uncertainty avoidance were most relevant for the function of an organisation with a country (Hofstede 1987).

Hofstede (1980 and 1983), in his research on national culture and work related value, surveyed the employees' perceptions towards work related values of a multinational corporation in 50 countries and three regions. He found three different cultures that can influence an individual's perception about work related values. The three different cultures are: (1) national culture; (2) organisational culture; and (3) occupational culture.

Hofstede (1987 : 9) noted :

*One of the useful side effects of studying national cultural differences is that it opens our eyes to the differences that exists in organisational and occupational cultures.*

Subsequent empirical and descriptive research on the accounting profession and education has shown that cultural issues such as :

- (a) nationality (Harrison and McKinnon, 1986; McKinnon, 1986),
- (b) where the accountants were educated (Abdeen and Yavas, 1987; Banerjee, 1992b),
- (c) different industry subgroups (Birkett, 1989),
- (d) different academic institutions (Sishta, 1989), and
- (e) students sponsorship by different industry subgroups (Abdoelkadir, 1982)

can affect the perceptions of individuals including accountants in practice (accountants in industry/commerce, government/statutory bodies and public practice), accounting academics and accounting students regarding accounting profession and education. In this study, the perceptions of the three interested parties will be examined in relation to accounting education issues in PNG, taking into consideration some of the cultural issues discussed above.

## Method

There were two research questions developed for the empirical study. They are

- Q1. Are there any differences in the perceptions of accounting students, accounting academics and accountants in practice regarding
  - (1) aims and objectives and
  - (2) selected inputs, specifically:
    - (2a) student development and teaching methods.
    - (2b) accounting academics : recruitment, promotion, and tenure.
    - (2c) course program development.
    - (2d) adequacy of teaching and research facilities, and
    - (2e) administration of university level accounting education in PNG?

- Q2. Do the respondents identified in Q1 differ in their perceptions regarding aims and objectives and input issues due to selected cultural factors (described below)?

A survey questionnaire (details available from the authors) was developed from a literature review of accounting professional and education issues in developed countries, developing countries in general and PNG in particular.

**Part A** of the questionnaire, which varied depending on which group respondents belonged to, sought background and characteristics information.

**Part B** comprising thirty-nine questions sought the perceptions of the three key parties relating to accounting education issues in PNG. The questions were arranged on a five point Likert scale, ranging from strongly agree to strongly disagree.

Questionnaires were completed and returned from 246 accountants in practice (72% response rate), 16 accounting academics (100% response rate) and 277 accounting students (99% response rate). The sample of accountants in practice was chosen from Port Moresby and Lae which are the two most commercialised cities in PNG and most accountants work in these two cities. The accounting academics and students were the total population from the two universities in PNG.

Two approaches were applied to measure the perceptions of the three parties. The groups were divided to test for

- (1) Between Group Differences; and
- (2) Between Subgroup Differences.

To analyse between group differences in perceptions, the respondents were grouped into:

- (a) accountants in practice;
- (b) accounting academics; and
- (c) accounting students.

Between subgroup differences tested which cultural issues affect the perceptions of the three parties. The accountants in practice and accounting academics were tested for

- (i) nationality
- (ii) place where latest accounting educational qualification was obtained;
- (iii) industry subgroups (i.e. academia, industry/commerce, government/statutory bodies and public practices); and
- (iv) institutions (the two universities in PNG (UPNG and UNITECH).

For accounting students, their perceptions were analysed regarding :

- (i) as to which of the two universities they attended, and
- (ii) sponsorship by the different industry subgroups indicated above.

Since 99 per cent of the students were from PNG, this group was not taken into consideration in analysing the nationality or educational effects as this could bias the results.

**Table I : Factors Obtained by Applying Factor Analysis**

Factors	Questions	% Var	Alpha Coef
<b>1. AIMS</b>			
F1 National Aims	7, 13	66.9	0.49
F2 Personal Aims	1, 25	66.8	0.58
<b>2. INPUTS</b>			
<b>2a Student Development and Teaching Methods</b>			
F3 Student entry and Development	33, 38	65.6	0.47
F4 Mature Student Entry	15, 21	59.2	0.31
F5 Teaching Methods	6, 9, 27	42.5	0.32
<b>2b Accounting Academics</b>			
F6 Recruitment	4, 10, 34	52.8	0.55
F7 Promotion	16, 22, 35	46.3	0.42
F8 Tenure	38	—	—
<b>2c Course program Development</b>			
F9 Course Program/Content	18, 20, 24, 32, 37	37.7	0.58
F10 Course Emphasis	2, 8	65.7	0.48
<b>2d Teaching and Research Facilities</b>			
F11 Teaching and Research Resources	5, 11	53.0	0.55
<b>2e Administration</b>			
F12 Program Management and Control	12, 14, 26, 28, 30, 36	37.8	0.67
<b>Total Questions</b>	<b>33/39</b>		

Notes :

(1) % of Variance = Percentage of Variance explained

(2) Alpha Coef. = Cronbach's Alpha

Three statistical approaches were used to examine the perceptions of the three key parties. First, descriptive statistics were applied to summarise the data and examine broadly how these three key parties

**Table II : Mean, Standard Deviation, 95% Confidence Interval and Ranking of the Factors**

Factors	Mean	Dif. from 3	Std Dev.	Conf Interval		Ranking	
				High	Low	1	2
<b>1. AIMS</b>							
F1 National Aims	1.76	1.24	0.62	2.38	1.13	2	2
F2 Personal Aims	3.87	0.87	0.83	4.07	3.04	12	8
<b>2. INPUTS</b>							
<b>2a Student Development and Teaching Methods</b>							
F3 Student Entry and Development	1.88	1.12	0.73	2.61	1.15	5	5
F4 Mature Student Entry	2.37	0.63	0.82	3.19	1.55	9	10
F5 Teaching Methods	1.77	1.23	0.67	2.44	1.10	3	3
<b>2b Accounting Academics</b>							
F6 Recruitment	2.00	1.00	0.67	2.67	1.33	7	7
F7 Promotion	2.23	0.77	0.66	2.89	1.57	8	9
F8 Tenure	2.75	0.25	1.12	3.87	1.63	11	12
<b>2c Course Program Development</b>							
F9 Course program/Content	1.91	1.09	0.50	2.41	1.41	6	6
F10 Course Emphasis	2.57	0.43	0.82	3.39	1.76	10	11
<b>2d Teaching and Research Facilities</b>							
F11 Teaching and Research Resources	1.43	1.57	0.54	1.97	0.89	1	1
<b>2e Administration</b>							
F12 Program Management and Control	1.85	1.15	0.49	2.34	1.35	4	4

Note :

- (a) STD = Standard Deviations; CONF Interval = 95% Confidence Interval
- (b) Diff from 3 = Absolute differences between the means and 3. 3 denotes neutral responses.
- (c) Ranking 1 = Ranking of the factors according to the means
- (d) Ranking 2 = Ranking of the factors according to the absolute differences between the means and 3.

answered the 39 survey questions. Second, factor analysis/principal component analysis was applied to see if the technique confirmed the aims and objectives and input issues identified by the researchers. The reliability of the questions in measuring the same factor was also analysed. In the process a total of six questions which could not be related to any factor or which reduced the reliability of the factors were removed. The factor analysis technique was not applied to the 39 questions at once but to each subset of questions regarding aims and objectives and input issues identified by the researchers.

Table I shows the 12 factors obtained by applying FA/PCA technique, the questions included in each factor and the corresponding percentages of variance explained and Cronbach's alpha coefficients indicating the reliability of the factors.

Finally, analysis of variance (ANOVA) was applied to test the hypotheses relating to between group differences and between subgroup differences. The results of this analysis are reported in the next section.

Table II shows the means, standard deviations, and confidence interval of the 12 factors and the ranking of the factors according to the means and absolute mean difference from the middle score (3). The two methods of ranking of the factors give similar results except for F2-Personal aims.

The ranking of the factors indicates a situation typical in developing countries. Relating to aims of accounting education, the three groups note that accountants should be produced for national aims (ranked 2) such as to fulfil the staffing needs more than producing elites for the society (personal aims—ranked 12/8). In developing countries like PNG, where qualified personnel is scarce, they rely on foreign accountants. The results show that more accountants must be produced within PNG to fulfil the accounting manpower needs. For example, to fill the manpower needs and be part of the development process indicates there is a need to produce more local accountants.

Relating to input factors, the results reflect the fact that resources are scarce in developing countries. Consequently, the adequacy of resources is ranked 1 according to the mean. Once the resources are improved, then teaching methods (ranked 3) may improve because of the availability of computers, classroom space and library holdings of accounting textbooks and materials. This will allow for innovative teaching methods using computers and other facilities. The administration (program management—ranked 4) will be able to implement policies to enable more student entry into the program and development from entry to graduation and the recruitment and retention of qualified accounting academics. This will enable course development and implementation to

**Table III : Perceptions of Accounting Academics, Accountants in Practice and Accounting Students**

Factors	Mean of Responses			Test of Significance		F Ratio	F Prob
	(1)	(2)	(3)	(1.2)	(1.3)		
<b>1. AIMS</b>							
F1 National Aims	1.47	1.90	1.64	0.43 (0.38)	0.17 (0.38)	0.26 (0.13)*	13.748 0.000*
F2 Personal Aims	4.063	4.13	3.64	0.064 (0.504)	0.43 (0.50)	0.49 (0.17)*	25.021 0.000*
<b>2. INPUTS</b>							
<b>2a Student Development and Teaching Methods</b>							
F3 Student Entry and Development	2.13	2.081	1.68	0.044 (0.445)	0.441 (0.443)	0.40 (0.15)*	21.864 0.000*
F4 Mature Student Entry	2.063	2.26	2.49	0.20 (0.51)	0.43 (0.51)	0.23 (0.17)*	6.589 0.002*
F5 Teaching Methods	1.72	1.90	1.66	0.18 (0.42)	0.064 (0.42)	0.24 (0.14)*	8.703 0.002*
<b>2b Accounting Academics</b>							
F6 Recruitment	2.083	2.058	1.95	0.025 (0.425)	0.14 (0.42)	0.11 (0.14)	1.996 0.137
F7 Promotion	2.104	2.34	2.14	0.25 (0.41)	0.037 (0.411)	0.24 (0.14)*	6.413 0.002*
F8 Tenure	2.56	2.48	3.00	0.083 (0.691)	0.44 (0.69)	0.52 (0.23)*	15.028 0.000*
<b>2c Course Program Development</b>							
F9 Course Content/Program	1.98	1.95	1.88	0.027 (0.317)	0.096 (0.316)	0.069 (0.108)	1.37 0.26
F10 Course Emphasis	2.81	2.75	2.41	0.067 (0.507)	0.41 (0.51)	0.34 (0.17)*	12.442 0.000*
<b>2d Teaching and Research Facilities</b>							
F11 Teaching and Research Resources	1.53	1.58	1.30	0.046 (0.332)	0.24 (0.33)	0.28 (0.11)*	19.020 0.000*
<b>2e Administration</b>							
F12 Program Management & Control	2.072	1.85	1.83	0.23 (0.31)	0.24 (0.31)	0.011 (0.106)	1.78 0.17

**Note**

- (a) \* significant at 0.05 level
- (b) The numbers under 'mean of responses' are the means of the three groups.
- (c) The numbers under 'test of significance' without parentheses are differences between the means and the numbers in parentheses are critical values.
- (d) (1) = Accounting Academics, (2) = Accountants in Practice, (3) = Accounting students.
- (e) n of (1) = 16; n of (2) = 246; n of (3) = 277; sample size = 539.

meet the needs of the society. However, in relation to tenure for expatriate accounting academics (ranked 11/12), perceptions indicate nationalistic feeling for training more indigenous accounting academics. Perhaps expatriate academics should be put on short-term contracts and more indigenous accounting academics produced. This is also in line with the views relating to national aims of accounting education to produce more indigenous accountants to meet the staffing needs.

From Table III it can be concluded that there are differences in aims and input issues into university level accounting education between accountants in practice and accounting students but the accounting academics do not differ from either groups. The latter could result from the fact that the sample of accounting academics is small, 16 out of a total of 539 usable responses.

The accountants in practice and accounting students (groups 2 and 3) differ in most aspects regarding aims and inputs into accounting education in PNG, except for F6-recruitment, F9-course content/program, and F12-program management and control where they do not differ.

The agreement between the three groups on Factors 6, 9 and 12 suggest that they agree with the methods outlined in the survey questionnaire to enable recruitment of academics. The methods, if implemented, may enable recruitment of qualified accounting academics for the two universities in PNG. The agreement with the course content/program suggests the courses designed for PNG universities should meet the needs of both international and local needs and have components of both private and public sector accounting. The agreement relating to program management and control indicates that the three parties believe all sectors of the economy must be involved to improve accounting education and accounting manpower needs in PNG which is lacking at present. This has resulted in criticisms regarding course programs and quality of graduates from both the government and private sectors.

As far as the other factors are concerned, disagreements between accounting students and accountants in practice may suggest differences in developing and developed country perceptions because 99 per cent of the students are from PNG while most accountants in practice are from developed countries. The cultural effect of country of origin is considered next.

**Table IV**  
**Perceptions of Accountants from PNG, Other Developing and Developed Countries**

Factors	Mean of Responses			Test of Significance		F Ratio	F Prob
	(1)	(2)	(3)	(1.2)	(1.3)		
<b>1. AIMS</b>							
F1 National Aims	1.69	1.79	2.26	0.11 (0.30)	0.58 (0.22)*	0.47 (0.37)*	21.063 0.000*
F2 Personal Aims	3.96	4.27	4.36	0.30 (0.34)	0.39 (0.25)*	0.091 (0.368)	8.272 0.000*
<b>2. INPUTS</b>							
<b>2a Student Development and Teaching Methods</b>							
F3 Student Entry and Development	1.97	2.37	2.18	0.39 (0.34)*	0.21 (0.25)	0.19 (0.37)	4.941 0.008*
F4 Mature Students Entry	2.27	2.15	2.25	0.12 (0.40)	0.020 (0.264)	0.103 (0.389)	0.352 0.703
F5 Teaching Methods	1.76	1.93	2.09	0.16 (0.29)	0.33 (0.21)*	0.17 (0.13)*	7.506 0.001*
<b>2b Accounting Academics</b>							
F6 Recruitment	1.99	1.89	2.28	0.11 (0.29)	0.289 (0.212)*	0.40 (0.31)*	7.394 0.001*
F7 Promotion	2.12	2.31	2.71	0.19 (0.28)	0.59 (0.20)*	0.39 (0.30)*	25.325 0.000*
F8 Tenure	2.67	2.35	2.20	0.32 (0.43)	0.47 (0.32)*	0.15 (0.47)	7.078 0.000*
<b>2c Course Program Development</b>							
F9 Course Content/Program	1.89	1.94	2.060	0.042 (0.213)	0.17 (0.16)*	0.12 (0.23)	3.516 0.031*
F10 Course Emphasis	2.64	2.79	2.93	0.15 (0.39)	0.289 (0.286)*	0.14 (0.39)*	3.157 0.044*
<b>2d Teaching and Research Facilities</b>							
F11 Teaching and Research Resources	1.45	1.46	1.85	0.003 (0.285)	0.39 (0.18)*	0.39 (0.27)*	15.504 0.000*
<b>2e Administration</b>							
F12 Program Management & Control	1.77	1.94	1.99	0.17 (0.21)	0.23 (0.15)*	0.053 (0.223)	7.525 0.001*

**Note :**

- (a) \*significant of 0.05 level
- (b) The numbers under 'mean of responses' are the means of the three groups
- (c) The numbers under 'test of significance' without parentheses are differences between means and the members in parentheses are critical values.
- (d) (1) = PNG; (2) = Other Developing Countries, (3) = Developed Countries
- (e) n of (1) = 148; n of (2) = 34; n of (3) = 80; Sample size = 262
- (f) The sample size includes 246 accountants in practice and 16 accounting academics.

**Table V : Perceptions of Accountant who Received Latest Accounting Education Qualifications in PNG, Other Developing or Developed Countries**

Factors	Mean of Reponses			Test of Significance		F Ratio	F Prob
	(1)	(2)	(3)	(1.2)	(1.3)		
<b>1. AIMS</b>							
F1 National Aims	1.66	1.82	2.19	0.16 (0.38)	0.53 (0.22)*	0.37 (0.40)	17.932 0.000*
F2 Personal Aims	3.97	4.13	4.39	0.17 (0.44)	0.42 (0.25)*	0.26 (0.45)	8.8331 0.0002*
<b>2. INPUTS</b>							
<b>2a Student Development and Teaching Methods</b>							
F3 Student Entry and Development	1.97	2.39	2.24	0.27 (0.45)	0.43 (0.26)*	0.15 (0.53)	5.137 0.007*
F4 Mature Student Entry	2.26	2.18	2.24	0.78 (0.532)	0.022 (0.269)	0.057 (0.493)	0.089 0.915
F5 Teaching Methods	1.76	2.026	2.049	0.27 (0.38)	0.029 (0.21)*	0.023 (0.392)	6.202 0.002*
<b>2b Accounting Academics</b>							
F6 Recruitment	1.97	2.00	2.24	0.03 (0.38)	0.27 (0.22)*	0.24 (0.40)	4.891 0.008*
F7 Promotion	2.14	2.33	2.63	0.198 (0.229)	0.50 (0.21)*	0.30 (0.38)	17.193 0.000*
F8 Tenure	2.68	2.37	2.27	0.31 (0.56)	0.41 (0.32)*	0.097 (0.589)	5.113 0.007*
<b>2c Course Program Development</b>							
F9 Course Program/Content	1.88	2.01	2.02	0.13 (0.27)	0.14 (0.16)	0.01 (0.29)	2.679 0.071
F10 Course Emphasis	2.62	2.87	2.96	0.25 (0.50)	0.33 (0.29)*	0.088 (0.526)	4.310 0.015*
<b>2d Teaching and Research Facilities</b>							
F11 Teaching and Research Resources	1.44	1.58	1.81	0.14 (0.32)	0.37 (0.18)*	0.24 (0.33)	12.763 0.000*
<b>2e Administration</b>							
F12 Program Management & Control	1.76	1.96	1.99	0.19 (0.27)	0.22 (0.15)*	0.036 (0.028)	6.912 0.001*

#### Note

- (a) \*significant at 0.05 level
- (b) The numbers under 'mean of responses' are the means of the three groups.
- (c) The numbers under 'test of significance' without parentheses are differences between means and the numbers in purchases are critical values.
- (d) (1) = Accountant with PNG Qualifications; (2) = Other Developing Countries; (3) = Developed Countries.
- (e) n of (1) = 143; n of (2) = 19; n of (3) = 81; Sample Size = 243
- (f) Those accountants with no accounting education qualifications but only professional qualifications were excluded from this analysis; 18 accountants were excluded.

From Table IV it can be concluded that there are differences between the three subgroups for country of origin. However, there are no statistically significant differences between PNG and other developing countries (sub-groups 1 and 2) except for F3 - student entry and development. This may result from different admission criteria in different developing countries and different methods of dealing with students from entry to graduation because of different colonial influences and admission criteria put in place and some may have changed after independence.

There are, however, many statistically significant differences between accountants from PNG and developed countries (sub-groups 1 and 3). They differ in most factors except for F3—student entry and development and F4—mature student entry.

There are statistically significant differences between other developing and developed countries (sub-groups 2 and 3) relating to certain factors but not others. They differ with regard to F1—national aims, F5—teaching methods, F6—recruitment, F7—promotion and F11—resources.

The results do indicate significant differences in perceptions between those people from developing and developed countries. Accountants from PNG and other developing countries do not differ in their perceptions whilst they do differ from accountants from developed countries.

From the analysis presented in Table V it can be seen that there is a difference in the perceptions of accountants who received their latest accounting education qualification in PNG and those who did so in developed countries (sub-groups 1 and 3). They differ with respect to most factors except for input F4 - mature student entry and F9 - course program/content.

The accountants from other developing countries do not differ from accountants educated in either PNG or developed countries. Again, this could be a function of the small sample size.

Similar analyses to those presented in Tables IV and V were done for the other selected sub-groups representing the remaining cultural variables namely industry, institution, and sponsorship but no significant differences were found between these groups indicating that these variables do not affect perceptions of accounting education.

## **Conclusions**

### *Ranking of Factors*

The national aim of accounting education (F1) is clearly the most important factor to be considered when planning output of accounting graduates. There is also general agreement relating to input factors which

needs modification to upgrade both the quantity and quality of PNG accounting graduates.

The results indicate that priority must be given to improving resources (teaching and research facilities) including library holdings of accounting journals and books and computer facilities. Then there is a need to recruit competent academics. This will in turn enhance student development, teaching methods and course development. The courses must meet local requirements as well as those of international business to enable them to produce qualified graduates. This also means that for program management, there is a need for cooperation from private and government sectors, accounting professional bodies and the universities to review the current programs to give them both local and international contents to satisfy all sectors of the profession. The exchange of staff between the university and the private and government sectors may enable the courses to be better oriented towards both the international and PNG environments.

#### *Perceptions of interested parties and cultural influences*

The analysis of the perceptions of the three interested parties, accounting academics, accountants in practice and accounting students revealed major differences between practitioners and students. Since virtually all of the students were from PNG whereas many practitioners were from other countries, this suggested cultural influences were at work. The results of the perceptions relating to selected cultural issues indicate that nationality and where the accountants were educated have great effects on the perceptions of accountants regarding aims and objectives and input issues of accounting education in PNG.

This has implications for recruitment of accounting academics which will in turn affect student development, teaching methods used and teaching and research facilities including textbooks used. So, based on the findings of this study, it is suggested that the following are policy options for the developing countries in general and PNG in particular.

#### *Policy Options*

Depending on what type of accounting education model a developing country wants to adopt, there are three options;

- (1) adopt a model from a developed country;
- (2) adopt a model from a developing country with similar environment; or
- (3) develop a model more related to its unique environment.

For Option 1, the accounting academics, in the first instance, must come from the developed country concerned or have been educated in

that country. The first group of indigenous accounting academics should be educated in that country. For example, if PNG wants to adopt the Australian accounting education model then it should, in the first instance, recruit Australian accounting academics and send the first group of PNG accounting academics to be trained in Australia.

For Option 2, the developing country concerned will, in the first instance, have to recruit accounting academics from another developing country with a similar environment or who have been educated in that country.

For Option 3, to develop accounting education programs applicable to the developing country's unique environment, there may be a need to develop an accounting research centre. The research centre should enable research to be conducted and develop teaching materials and textbooks and design course programs appropriate for its own environment. The centre should be allowed to conduct postgraduate studies by research to produce local accounting academics. The locally produced accounting academics may be in a better position to dispense accounting knowledge and produce accounting graduates required by the different sectors operating within the unique PNG environment.

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## GRAPHIC TECHNIQUES FOR PRESENTATION OF FINANCIAL RESULTS

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Graphical presentation of financial results can help in highlighting certain essential features and make communication smoother. It is also likely to catch the attention of the public and increase the company image considerably. In this article, the authors explain application of a few graphic techniques for presenting financial performance of companies.

For many investors, financial results of companies are the basis on which investment decisions are made. Besides, it is also mandatory on the part of public companies to disclose the financial results to the shareholders. These financial results are in an accounting format. The financial performance of companies can also be expressed through graphic techniques and already many companies use bar diagrams or pie charts to highlight their performance.

Graphical presentation of financial results can help in highlighting essential facts, can be attractive and make communication easier. Graphical presentation is not just drawing a line, a bar or pictorial graph of net profits, production to EPS. It can also be the translation of profit and loss account and other financial statements from accounting perspective to pictorial status. Graphics can also present many facets of financial performance just as accounting statements. In this article, the application of a few graphic techniques for presenting the financial results of companies are explained.

### Components of Financial Results

Items such as Net sales (export turnover, if any), Other income, Total expenditure, Interest paid, Gross profit, Depreciation, Provision for taxation and Net profit are the main components of the financial results. Besides, the balance sheet items such as the paid up equity capital and the reserves excluding the revaluation reserves are also disclosed. These are available in the accounting format and the investor, if desired, can

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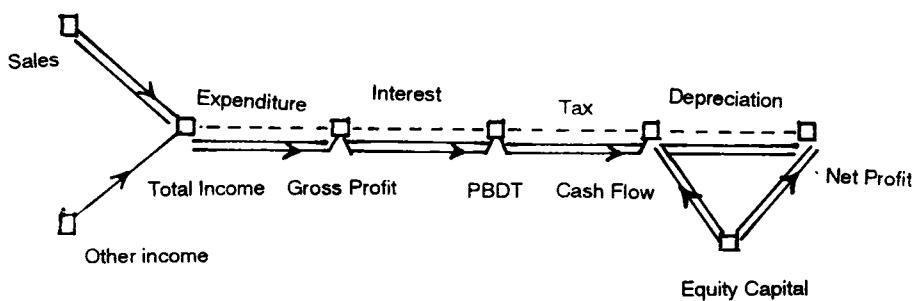
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analyse the financial performance through the techniques known to him (mostly by using simple percentages or ratio analysis).

Investors also perform internal comparison of financial results over a two year period since the companies usually provide the results for (a) current accounting year, and (b) corresponding previous year. Similarly, when companies report their half-yearly results they also disclose performance for (a) the current six months, and (b) immediately preceding six months. From these statements, comparative increase or decrease over the previous period are to be worked out by the investors. Such data by themselves are inadequate to assess the performance at a glance. Again, inter-company comparisons are possible only when the investor maintains his own analysed version of the financial results. When the companies take so much effort to project their financial results, care can also be taken to make it easier for the investor to interpret the results.

### **Network Between The Components of Financial Results**

The components of the financial results are not separate entities. The profit and loss account items are all linked to the sales income. Among the expenditure items, apart from depreciation all other components involve cash flows. The network diagram indicating the interlinks between the components can be illustrated as under :



For comparative purposes, rather than stating the components of financial performance, the resulting events such as gross profit, profit before depreciation and tax (PBDT), cash flow and net profit can be stated as a ratio to total income. Besides, cash flow and net profit can be stated as a ratio to equity capital also. This relative form can be interpreted more easily than the absolute amounts.

Graphical presentation of all these information in a combined way is possible either through a star symbol plot, sun ray plot, casement plot or chernoff faces and along with a legend, these graphs can be easily interpreted by an investor.

### **Application**

Ten companies whose financial results (1993-94) appeared in the newspapers have been taken for illustration. The companies that were selected are Gupta Carpets Udyog Ltd (Gupta), Vijay Shanthi Builders Ltd (Vijay), Carrier Aircon Ltd (Carrier), Hotline Teletube & Components Ltd (HTC), Anjani Fabrics Ltd (Anjani), SKS Ltd (SKS), Onida Savak Ltd (Onida), Vardhman Spinning & General Mills Ltd (Varspin), Mahavir Spinning Mills Ltd (Mahavir) and Vardhman Polytex Ltd (Varpol). The last three companies belong to the Vardhman Group. The financial results declared in the accounting format were converted into ratios such as Gross profit to sales (GP), Profit before depreciation and tax to sales (PBDT), Net profit to sales (NP), Sales turnover (ST), Cash flow per share (CPS), and Earnings per share (EPS).

The performance details of the selected companies for the year 1993-94 are provided in Table 1. Table 2 provides performance details for 1992-93.

**Table 1**  
**Performance Details for 1993-94**

Company	Gross Profit to sales (%)	Profit before dep. & tax (%)	Cash Earnings per Share (Rs.)	Net Profit to sales (%)	Earnings per Share (Rs.)	Sales Turnover (times)
Vijay	23.61069	22.15346	3.235673	20.01934	3.029766	1.479878
Gupta	22.39513	16.58906	6.208726	16.40444	6.139629	3.593066
Carrier	9.5282	5.606039	1.876569	4.14752	1.388343	3.105663
HTC	18.66179	11.23064	7.414441	7.934558	5.238378	6.428981
Onida	13.5581	10.27348	4.818617	8.927796	4.223135	4.652977
SKS	16.81055	8.332978	7.063038	4.728928	4.008106	8.092881
Anjani	9.433117	5.583819	3.443398	3.895371	2.628859	6.708956
Varspin	19.10422	13.61535	60.0432	6.436701	35.78834	54.2635
Mahavir	24.28571	19.7028	34.44258	10.07768	25.01257	24.58424
Varpol	23.06506	17.22171	12.80899	9.682393	8.820225	8.79073

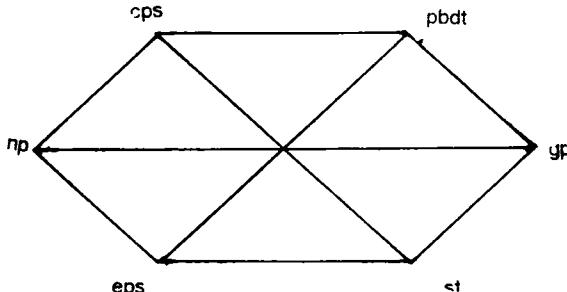
**Table 2**  
**Performance Details for 1992-93**

Company	Gross Profit to sales (%)	Profit before dep. & tax (%)	Cash Earnings per Share (Rs.)	Net Profit to sales (%)	Earnings per Share (Rs.)	Sales Turnover (times)
Vijay	14.94467	14.94467	0.348098	10.49193	0.297937	0.280617
Gupta	20.47219	16.45319	11.2727	16.30478	11.17102	6.358622
Carrier	7.313748	-0.71173	-0.20058	-2.84674	-0.80228	2.561892
HTC	17.76898	9.130101	4.3613	5.156797	2.463318	4.665452
Onida	7.954767	3.002535	1.322094	1.208813	0.550133	4.341615
SKS	15.80288	7.772394	6.226147	4.233738	3.391474	7.811006
Anjani	6.25817	1.891851	11.87917	1.318522	8.279167	62.28583
Varspin	18.62082	12.68241	69.50658	6.067302	43.35526	69.93421
Mahavir	19.89011	14.46314	40.71953	6.540966	25.52129	38.65932
Varpol	16.914	12.78539	13.91089	6.73516	8.762376	12.77723

### Graphical Presentation of Financial Results

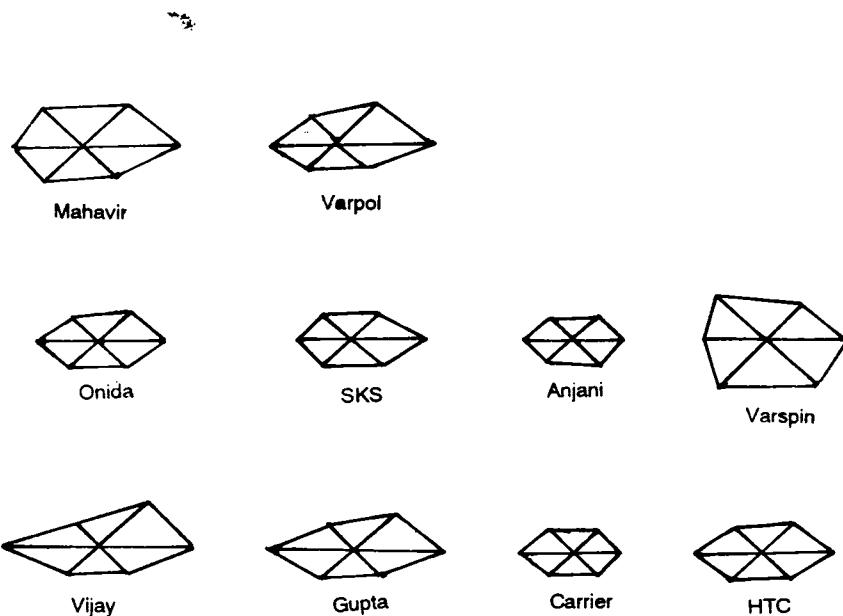
#### (a) Star Symbol Plot

For each company a star with six rays is plotted, each ray indicating a financial result i.e., (i) Gross profit to sales (gp), (ii) Profit before depreciation and tax to sales (pbdt), (iii) Cash flow per share (Cps), (iv) Net profit to sales (np), (v) Sales turnover (st), and (vi) Earnings per share (eps). This allows a visual comparison of performance characteristics of a company at a glance. Rays drawn from the centre point of each star and the smallest value in each characteristic is plotted with the smallest ray. The comparative results can be analysed by studying the length of each ray. The legend for the star symbol plot is presented here.



Star plot has been used to present the results of all the companies in 1993-94. The relative profitability performance of the companies can be analysed through this graph (Figure 1). "Mahavir" has a better profit position than other companies since the star is bigger and all the rays of the star are stretched out. Take the case of Varspin, though big, one of the rays is too short indicating the low net profit margin. Carrier and Anjani have the lowest performance.. The shape of the star also identifies the overall performance of the companies. Take the case of vijay. The net profit and gross profit figures are high while the earnings per share and cash flow per share are less leading to a rugged star.

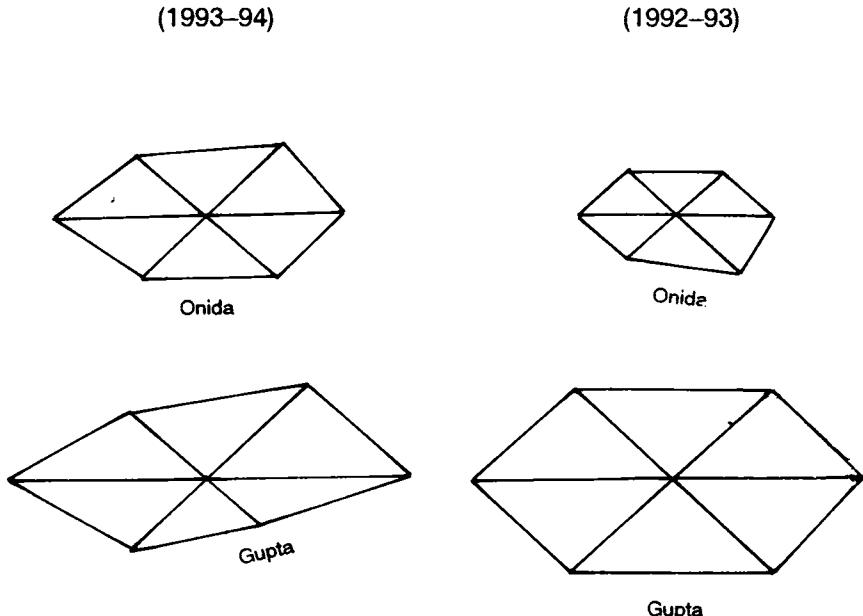
**Figure 1**  
**Star Plot of Selected Companies (1993-94)**



This star plot can also be used by individual companies to compare their performances over a time period. While presenting their half-yearly or year-end results apart from giving the accounting statements, the companies can present their results through these stars. Two examples may be given here (Figure 2). Onida has good overall performance and its profit improvement can be seen from the size of the stars. Take the case of Gupta. In the year 1992- 93, EPS, cash flow and sales turnover are higher. In the year 1993-94 the opposite is the case; the net profit,

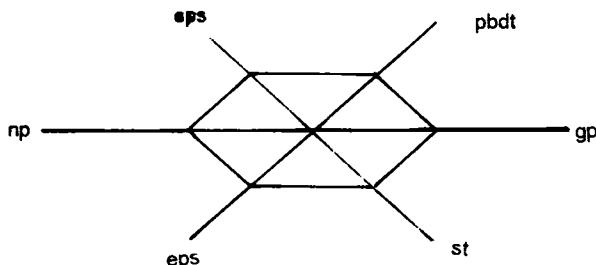
gross profit and profit before depreciation and tax are higher. This shows that though profitability as revealed by profit and loss account is good, the return on assets employed has actually fallen. Thus, the shape of the star identifies the performance of the company to a large extent.

**Figure 2**  
**Star Plot for Comparison over Two Year Time Period**



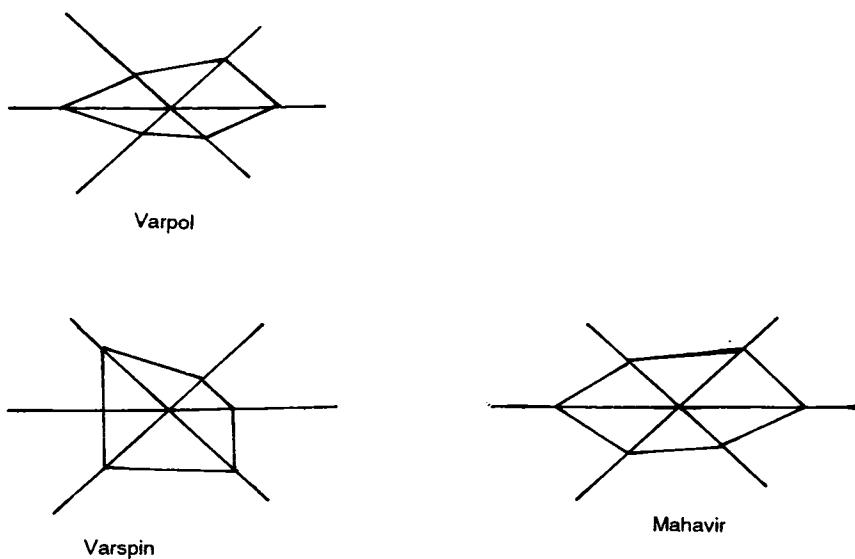
*(b) Sun Ray Plot*

The sun ray plot is a polygon wherein, each side of the plot represents the value of one financial characteristic. Each ray is scaled so that a side will intersect it in the middle if a variable is equal to the sample mean. The extreme points in each ray represent the standard deviations. Sun ray plots can be used by companies with many subsidiaries. Here, the plots are easily comparable among the subsidiaries. Further, the relative profitability of each company compared to the overall group's profits can be visualised. The legend for the sun ray plot is presented here.



The sun ray plot is drawn for the Vardhman group companies. Vardhman spinning, Mahavir and Vardhman polytex (Figure 3). The shapes of the figures are not entirely different from that of the star plots. The net profit ratios for the two companies, Mahavir and Vardhman polytex, are greater than the group mean while for the Vardhman spinning it is lesser. This can be identified by locating the point at which each ray is intersected by the sides. Varspin and Mahavir have better EPS and cash flow than the Varpol company. Of the three companies, Mahavir is the best performer.

**Figure 3**  
**Sun Ray Plot for Vardhman Group Companies (1993-94)**

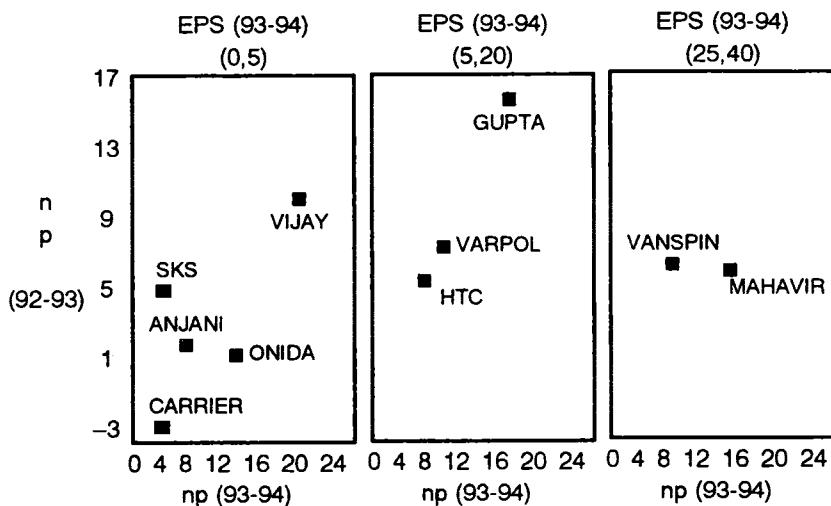


*(c) Casement Plot*

Casement plot produces a two-characteristic scatter plot for companies. The current year and previous year results of a ratio can be compared through this plot. Additionally, the plot can subdivide the graph based on a separate characteristic such as earnings per share. This additional sub-classification will group the companies based on a three dimensional performance.

Casement plot was used to group the companies on the basis of their net profits (1993-94 & 1992-93) and earnings per share (1993-94). Three groups have been formed based on earnings per share (Figure 4). Group I has EPS of less than 5. The second group has EPS between 5 and 20 and the last group has EPS between 25 and 40. Within each group the performance in terms of net profits is plotted. The highest performers are Vardhman and Mahavir. The lowest performers are Carrier, Anjani, SKS, Onida and Vijay. The moderate performers are Gupta, HTC and Vandhman Polytex.

**Figure 4**  
**Casement Plot of Selected Companies (1992-94)**



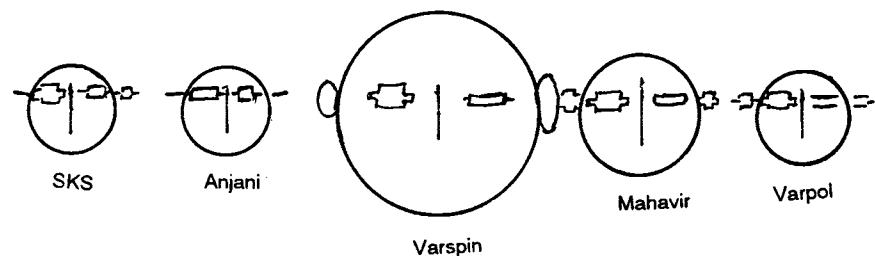
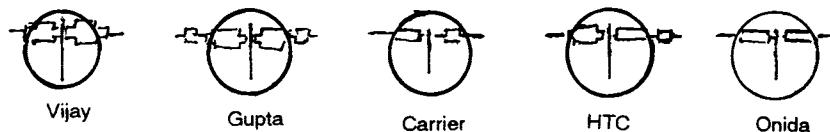
#### (d) Chernoff Faces

A technique for displaying data on a dimensional form is called as glyphs. Originally, this was intended as a concise way of displaying association between many variables. Since its introduction, many variations have been proposed and the Chernoff faces is a novel way to present multiple variables. Eighteen facial features have been identified and each variable would be associated with one of the 18 facial features. The facial features considered for associating the financial variables are (1) head, (2) mouth, (3) nose, (4) eyes, (5) eyebrows, and (6) ears.

For illustrative purposes, the chernoff face drawn here has the following legend.

Feature	Financial Variable
Head size	Sales Turnover
Left Eye	Gross Profit
Right Eye	Net Profit
Nose length	Profit before Depreciation & Tax
Left Ear	Earnings per share
Right Ear	Cash Flow per share

**Figure 5**  
**Chernoff Faces of Selected Companies**



Looking at the chernoff faces (figure 5) drawn for the year 1993-94, we can easily identify the superior performance of Vardhman group to other companies. Vardhman Spinning has the largest sales turnover and earnings and cash flow per share (face size and ears). But its profit performance in terms of net profit, gross profit and PBDT are rather too small (eyes and nose). An overall good performance is reported by Mahavir. Its growth in respect of sales as well as in terms of investments are good (none of the features are too small). Take the case of Carrier. The eyes, ears and nose are so small indicating a poor performance by the company. A similar performance company is Anjani. SKS and Onida, Vijay, Gupta and HTC have bigger eye balls and moderate ears indicating a comparatively better financial result.

This type of chernoff faces can also be drawn for comparing the present and past financial results of the companies. The legend for such a chernoff face could be as follows :

Facial feature	Financial Variable	Previous Year	Current year
Head	Sales Turnover	Inner circle	Outer circle
Eyes	Net profit	Left	Right
Eyebrows	Gross profit	Left	Right
Nose	PBDT	Left hole	Right hole
Mouth	Cash flow/share	Top lip	Bottom lip
Ears	Earnings/share	Left	Right

This would provide in one diagram, the comparison between the previous and current year results as well as the overall financial performance at a glance. Each company can design its own feature and highlight its performance through these graphical techniques.

## Conclusion

With the secondary and primary markets gaining popularity in India, the companies are obliged to educate and inform the general public of their performance. The financial data could be confusing to an ordinary investor. A good performance record made impressive through pictures/diagrams are likely to catch the attention of the public and increase the Company image. Not only for individual companies, even to media such as financial newspapers and financial journals, presentation of company performance through such graphic techniques will get the approval of the investors.

## ETHICS IN ACCOUNTING : A PLEA FOR A NEW CONCEPTUALIZATION

*Arup Choudhuri\**

Highlighting different aspects of ethics in accounting the author in this thoughtful article, opines that codes of ethics are violated to serve individual familial and group interests. If ethics is redefined in a positive way to favour the cause of the enlightened accountant instead of threatening to penalise him, the accounting profession and the domain of ethical conduct get united.

### I

Ethics, rationality, morality and such other concepts remain even today problematics in the domain of philosophy. There are as many schools of thought comprehending these concepts as there are philosophers. These concepts convey different meanings to different persons, cutting across ideological lines. Kantians, Hegelians, Romantics, Socialists, non-Socialists, Existentialists, Realists, Surrealists, Hippies and many other schools of thought beat the same donkey to move it to different directions. The conceptual donkey has been beaten severely; it had moved much distance, this way and that way, and thereafter has lost a sense of direction. To move it to a particular direction one has to have with him a compass.

The compass is not yet available. One has to undergo definitional hazards in search of it. If one undertakes such a journey one would come across a multiplicity of definitions for such concepts as ethics, morality or rationality. Even a Hegelian dialectician cannot but be dumbfounded by the polar opposite actions defensible in the name of such concepts.

Is it rational to eat human flesh? When a cannibal was asked this question by an American Sociologist he was reported to have shot back with the proposition that it was at least more rational than killing thousands of people with an atom bomb and not eating their flesh. 'When we are hungry we kill to eat, but you kill needlessly'. That seems to be the idea conveyed by the cannibal.

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Similar is the case with the concept of ethics. When one of my friends first purchased one hundred equity shares of a renowned enterprise from the stock market he was rebuked by the Hindu Brahmin patriarch of his family on the charge that it was unethical for him to indulge in activities that come naturally to the Vaishyas. But it was not, however, unethical for him to accept dowry while he married.

The world of ethics, morality, rationality is indeed a queer world in which our dear, innocent, professional accountant cannot but feel like an Alice in Wonderland. He may feel like the hero in one of Mollier's plays who was surprised to know from his fiancee that all throughout his life he had been talking French prose. Similarly our accountant may be taken aback to know that all throughout his life he has been following one ethical yardstick—his enlightened self-interest.

## II

The study of ethics, it is said, is the study of good and bad and difference between them; of right and wrong (and also of what is merely all right) and their differences; of duties and rights and their relationship; and the virtues and vices and related traits of character (Windt et al, 1989, p.9).

Kohler's Dictionary of Accounting describes 'ethics' as "a system of moral principles and their application to particular problems of conduct; specifically, the rules of conduct of a profession sometimes formally expressed and imposed by a profession or by a professional body, governing the behaviour of its members" (Cooper and Ijiri, 1983, p.199).

Oliviera. A. Johnson opines that "ethics is the theoretical examination of morality and it is the science of conduct" (1978, p.3).

De George's definition also stresses the 'morality' point of view as has been the case with the aforementioned one. According to him, ethics is a "theory of morality which attempts to systematize moral judgements and establish and defend basic moral principles" (1982, p.37).

W.T. Jones provides a very simple but suggestive definition : 'ethics' (or an 'ethic') is a pattern or norm or code of conduct actually adopted by a group of people (although, of course, not necessarily obeyed) (1979, p.1).

Some aspects of ethics are universal in nature. But much of it can only be described with reference to the values established by a particular society. Ethics also changes with the passage of time. In 1900s, it was considered unethical for a person to purchase some merchandise on credit, while now in the 1990s credit purchase is an integral part of living.

The definitions of ethics can be multiplied almost *ad infinitum*. But one escape route to get out of this awesome definition jungle is to evolve a typology of the available definitions. Philosophers have classified such definitions as belonging to three schools of thought :

1. The Consequentialist School,
2. The Dentological School, and
3. The School of Virtue Ethics (Donaldson and Werhane, 1989, p.528).

As its name implies, a consequentialist theory of ethical reasoning concentrates on the consequences of human actions, and all actions are evaluated in terms of the extent to which they achieve desirable results.

A dentological theory stipulates that all complete justifications must be based on fundamental principles of right or wrong action, or on appeals to individual rights.

The proponents of the virtue ethics school believe that justifications must always end in appeals to virtue or vice.

Obviously, accounting ethics have their reference points to all these schools of ethics. Professional ethics guiding the accountants is a lamb that has its grazing ground in the pastures of different schools.

### III

The International Federation of Accountants, in its guidelines on Professional Ethics for the Accountancy Profession, has stated :

"Persons who pursue a vocation in which they offer their knowledge and the skills in the service of the affairs of others have responsibilities and obligations to those who rely on their work. An essential prerequisite for any group of such persons is the acceptance and observance of professional ethical standards regulating their relationship with clients, employers, fellow members of the group and the public generally".

"The ethical requirements of any accountancy body should be based upon the following fundamental principles by which an accountant should be governed in the conduct of his professional relations with others :

- (a) **Integrity** : An accountant should be straightforward, honest and sincere in his approach to his professional work.
- (b) **Objectivity** : An accountant must be fair and must not allow prejudice or bias to override his objectivity; when reporting on financial statements which come under his review he should maintain an impartial attitude.

- (c) **Independence** : When in public practice, an accountant should both be, and appear to be, free of any interest which might be regarded, whatever be its actual effect, as being incompatible with integrity and objectivity.
- (d) **Confidentiality** : An accountant should respect the confidentiality of information acquired in the course of his work and should not disclose any such information to a third party without specific authority or unless there is a legal or professional duty to disclose.
- (e) **Technical Standards** : An accountant should carry out his professional work in accordance with the technical and professional standards relevant to that work.
- (f) **Professional Competence** : An accountant has a duty to maintain his level of competence throughout his professional career. He should only undertake work which he or his firm can expect to complete with professional competence.
- (g) **Ethical Behaviour** : An accountant should conduct himself in a manner consistent with the good reputation of the profession and refrain from any conduct which might bring discredit to the profession (ICAI, 1978, p.1).

The philosophical foundation upon which the rules of conduct adopted by the American Institute of Certified Public Accountants are based is expressed in the form of five ethical principles. Whereas the rules of conduct set forth minimum levels of acceptable conduct and are mandatory and enforceable, the principles suggest behaviour which the accountant should strive for. They represent a commitment to ethical conduct beyond any explicit prohibitions. The following affirmative principle is set forth in the area of independence, integrity and objectivity :

"A certified public accountant should maintain his integrity and objectivity, and when engaged in the practice of public accounting, be independent of those he serves" (AICPA, 1974, p.2).

The nineteen statements which follow are intended by the Institute to provide an elaboration of this principle and rationale for its support.

1. The public expects a number of character traits in a certified public accountant but primarily integrity and objectivity and, in the practice of public accounting, independence.
2. Independence has traditionally been defined by the profession as the ability to act with integrity and objectivity.
3. Integrity is an element of character which is fundamental to reliance on the CPA. This quality may be difficult to judge, however, since a particular fault of omission or commission may be the result either of honest error or of a lack of integrity.

4. Objectivity refers to a CPA's ability to maintain an impartial attitude on all matters which come under his review. Since this attitude involves an individual's mental processes, the evaluation of objectivity must be based largely on actions and relationships viewed in the context of ascertainable circumstances.
5. While recognizing that the qualities of integrity and objectivity are not precisely measurable, the profession nevertheless constantly holds them up to members as an imperative. This is done essentially by education and by the Rules of Conduct which the profession adopts and enforces.
6. CPAs cannot practice their calling and participate in the world's affairs without being exposed to situations that involve the possibility of pressures upon their integrity and objectivity. To define all such situations would be impracticable. To ignore the problem for that reason, however, and to set no limits at all, would be irresponsible.
7. It follows that the concept of independence should not be interpreted so loosely as to permit relationships likely to impair the CPA's integrity or the impartiality of his judgement, nor so strictly as to inhibit the rendering of useful services when the likelihood of such impairment is relatively remote.
8. While it may be difficult for a CPA always to appear completely independent, even in normal relationships with clients, pressures upon his integrity or objectivity are offset by powerful countervailing forces and restraints. These include the possibility of legal liability, professional discipline ranging up to revocation of the rights to practice as a CPA, loss of reputation and, by no means the least, the inculcated resistance of a disciplined professional to any infringement upon his basic integrity and objectivity. Accordingly, in deciding which types of relationships should be specifically prohibited, both the magnitude of the threat posed by a relationship and the force of countervailing pressures have to be weighed.
9. In establishing rules relating to independence, the profession uses the criterion of whether a reasonable man, having knowledge of all the facts and taking into consideration normal strength of character and normal behaviour under the circumstances, would conclude that a specified relationship between a CPA and a client poses an unacceptable threat to the CPA's integrity or objectivity.
10. When a CPA expresses an opinion on financial statements, not only the facts but also the appearance of integrity and objectivity is of particular importance. For this reason, the profession has adopted rules to prohibit the expression of such an opinion when

relationships exist which might pose such a threat to integrity and objectivity as to exceed the strength of countervailing forces and restraints. These relationships fall into two general categories : (i) certain financial relationships with clients, and (ii) relationships in which a CPA is virtually part of management or an employee under management's control.

11. Although the appearance of independence is not required in the case of management advisory services and tax practice, a CPA is encouraged to avoid the proscribed relationships with clients regardless of the type of services being rendered. In any event, the CPA, in all types of engagements, should refuse to subordinate his professional judgement to others and should express his conclusions honestly and objectively.
12. The financial relationships proscribed when an opinion is expressed on financial statements that make no reference to fees paid to a CPA by a client. Remuneration of providers of services is necessary for the continued provision of those services. Indeed, a principal reason for the development and persistence in the professions of the client-practitioner relationship and of remuneration by fee (as contrasted with an employer-employee relationship and remuneration by salary) is that these arrangements are seen as a safeguard of independence.
13. The above reference to an employer-employee relationship is pertinent to a question sometimes raised as to whether a CPA's objectivity in expressing an opinion on financial statements will be impaired by his being involved with his client in the decision making process.
14. CPAs continually provide advice to their clients, and they expect that this advice will usually be followed. Decisions based on such advice may have a significant effect on a client's financial condition or operating results. This is the case not only in tax engagements and management advisory services but in the audit function as well.
15. If a CPA disagrees with a client on a significant matter during the course of an audit, the client has three choices; he can modify the financial statements (which is usually the case), he can accept a qualified report or he can discharge the CPA. While the ultimate decision and the resulting financial statements clearly are those of the client, the CPA has obviously been a significant factor in the decision-making process. Indeed, no responsible user of financial statements would want it otherwise.
16. It must be noted that when a CPA expresses an opinion on the financial statements, the judgements involved pertain to whether

the result of operating decisions of the client are fairly presented in the statements and not on the underlying wisdom of such decisions. It is highly unlikely, therefore, that being a factor in the client's decision-making process would impair the CPA's objectivity in judging the fairness of presentation.

17. The more important question is whether a CPA would deliberately compromise his integrity by expressing an unqualified opinion on financial statements which are prepared in such a way as to cover up a poor business decision by the client and on which the CPA has rendered advice. The basic character traits of the CPA as well as the risks arising from such a compromise of integrity, including liability to third parties, disciplinary actions and loss of right to practice, should preclude such action.
18. Providing advice or recommendations which may or may not involve skills logically related to a client's information and control system, and which may affect the client's decision-making, does not in itself indicate lack of independence. However, the CPA must be alert to the possibility that undue identification with the management of the client or involvement with a client's affairs to such a degree as to place him virtually in the position of being an employee, may impair the appearance of independence.
19. To sum up, CPAs cannot avoid external pressures on their integrity and objectivity in the course of their professional work, but they are expected to resist the pressures. They must, in fact, retain their integrity and objectivity in all phases of their practice and, when expressing opinions on financial statements, avoid involvement in situations that would impair the credibility of their independence in the minds of reasonable men familiar with the facts (Windal and Corley, 1980, p.41).

In the backdrop of the aforementioned International Code and its American counterpart, a perusal of the Indian Chartered Accountants Act of 1949, read with the different editions of the code of conduct published by the Council of the Institute of Chartered Accountants of India and the revised Chartered Accountants' Regulations of 1988, suggests that the overriding motto has been pride of service in preference to personal gain (ICAI, 1988, p.2). It reminds all concerned that it has a great practical value in so far as it proclaims to the public that the accountants would discharge their duties and responsibilities, having regard to public interest. Any breach of this Code, it reminds all concerned, may disentitle an erring accountant to remain a member of the professional body.

In the Introduction to the Code of Conduct published by the ICAI it is admitted that "human nature being what it is, a man often places his personal gain above service" (ICAI, 1988, p.2).

This article devotes itself to the task of demonstrating the rationale of the proposition that personal gain and public interest can be harnessed in a new conceptualization of ethics that is more in tune with free market economy. The dichotomy between personal gain and public interest is a false one; the two may be redefined to serve realisable ethical standards. If the two remain dichotomous, as they are at present, both play hypocritical games with one another.

The empirical researches and probes into the activities of accountants lead to the inescapable conclusion that, however much important the professional rules and regulations are, the overriding importance of self-interest of the accountant in the enforcement of ethical standards can hardly be denied. By self-interest, I do not mean selfish interests; what I mean by such interests is those interests which I want to realize and willingly let others realize in their professional career. Abraham Lincoln justified his stand against slavery on the ground that he wanted no one to be a slave as he himself did not want to be a slave. This kind of Lincolnian logic is precisely the force behind my argument that the accountant must not resemble the proverbial donkey which is constantly whipped to bear a heavy load. He should be provided with carrots to bear the burden of ethics on his poor, tiny shoulders. The incentives for shouldering the burden are hardly provided by the enactment of rules, regulations, or norms. Nor are they taken care of by the provision of more and more perks for the accountants.

Like all other human beings the accountants are also *Homo economicus*-economic beings. One cannot expect them to be more particular than other members of the society in the enforcement of ethical norms in their accounting jobs if their economic interests are not served. When they do a good job, pay them well, pamper them, if you like, with cars, perks, airconditioned bungalows, executive class air travel and the like. They are a rare breed in matrimonial columns; let them be. They should get the riches as well as the princess. If they do a fine job, they should get the coveted prize. No one should grudge.

The economic incentives or the carrots, as I say in a lighter vein, are not enough to guarantee the enforcement of ethical standards in accounting jobs. Ethical standards of any society evolve from the socio-economic formation and the superstructural elements supported by that formation (Bottomore, 1983, pp.42-45). The production relations, or property relations being the base of any society, determines to a large extent the institutional and ideological superstructure of any particular society.

Family, associations and state as institutions and law, morality, religion, ethics, art, culture, etc. as ideas go on fashioning and refashioning

in tune with changes taking place in production relations. Ethical standards of a given society may enjoy a degree of relative autonomy from the base, but not much. They may affect the base, but not substantially. Accountants all over the world have no power to determine the content and configurations of such ethical standards. They are themselves under the spell of such standards. The accounting rules, regulations and norms have to conform to such standards.

The accountants must be made to realize that they stand to gain by enforcing the societal ethical standards as expressed through accounting rules and regulations. Economic incentives are needed; but they are not enough. Accountants need the assurance that they stand to gain by steadfastly adhering to the rules and regulations than by camouflaging, hoodwinking or feigning compliance to them. It is the accountant who should be the custodian of ethics in the financial housekeeping of an enterprise. Rules and regulations are his guides; but he is the person who decides how to utilize the services of the guides. If he feels sure that he stands to gain by allowing the guides full and free play, he will be second to none in permitting such a play. If he anticipates that by twisting, torturing or disregarding such guides his own interests are served, he would not hesitate to do so like any other normal human being.

This article is built on the hypothesis that under Indian conditions the accountants stand to gain by conforming to the covert and overt dictates of their employers. They have to pay lip service and feign loyalty to the ethical standards embodied in the existing rules and regulations. It is by so doing they may reasonably expect to keep their jobs secure, assure hikes in their pay and perks in the next financial year and maintain a clean and quiet record of service that is a sine qua non for better employment prospects.

The Indian accountants cannot be expected to be crusaders for the enforcement of ethical standards; they are likely to be conformists, by and large paying much more heed to the wishes of their employers than to the dictates of individual, organizational, societal or international codes of ethics. Some of them may be extraordinary deviants, giving up jobs in the private sector and switching over to the public sector for much less remuneration or going back to academic pursuits. Such exceptions only prove the rule that under existing circumstances the accountants in India have no earthly reason to be, without fear or favour, the real custodian of ethical standards.

It is common knowledge that every economy, be it capitalist or socialist, witnesses another economy running parallel to it. This is so because the normal economy has failed to take into full cognizance of the need for utilizing the creative energies of the people that are hindered by the prevalent system. A doctor in a government hospital, after

performing his duties to the satisfaction of the patients and his employer, may have sufficient time, energy and motivation to work for more fame and money. The whole energy of a college teacher may not be exhausted after attending a few classes in a week. He may feel the urge to earn more by writing books and articles in journals or by delivering lectures to an audience outside the classroom. A company executive, a technician, a clerk, a tailor, in fact any employee, may feel that he is capable of bolstering his income by working extra hours. In Hong Kong it is possible to have a suit tailor-made within a few hours because of the cooperation of the management of the tailoring establishment and the willingness of the employees to do extra work for extra money. Such extra work and extra money do no harm to anybody. Money has no colour; it is black only when the ethical code of conduct approved by the society is violated. It is for the state authority to decide when and how it is violated and to punish the violators. But, in no case, should it stifle private self-seeking that does not in any way damage the collective interests of the society. If it does so it will be nothing short of killing the goose that lays down golden eggs.

It is my contention that no system can have a vigorous existence without providing for the vindication of self-interests of its participants. Allow me to refer to Hegel who said that unlike the family or the state where the individuals are required to sacrifice selfish interests, the civil society represents a domain in which all its members pursue egoistic interests (Taylor, 1975, p.433). Right, but not exactly. If everyone is allowed to play his own selfish game there would be no free and fair play. Rules of the game have to be framed. Such rules of the game must not stifle the freedom of the players to play their own game, they should make the game possible and enjoyable. I would rather like to call the rules of the game, the politics of the game.

The politics of the right kind is important. The executive of government companies cannot but shun decision-making, because even if he makes an extraordinarily momentous decision that proves right there is no provision for reward, but for a major error there is a provision for censure, demotion and even dismissal. Buck-passing is his answer to this type of politics prevailing in government administration. Outstanding teachers and doctors know that for extraordinary services rendered in their respective institutions there is no reward. One common scale of pay binds the extraordinary, average and below average colleagues into one mediocre fraternity.

Judges get fixed salaries; if there are businessmen to provide air fare for all the family members of an exceptionally gifted judge of the High Court and Lake Palace Hotel Bills for all of them, how long can he be expected to be the vanguard of legal conscience? Once appointed, judges have no other means of getting rewards for excellent job

performance. Excellence is the first casualty in this wrong kind of politics. The accountants in India, similarly, cannot be expected to do a fine job in enforcing codified ethical standards if the right kind of politics is not introduced in their service career.

How should it be done ? First, call a spade a spade. The accountants cannot be coerced to act as guardians of ethical standards. Penal measures hardly deter men from wrong doing.

Second, economic incentives by themselves are not enough for asking the accountants to deliver the goods wanted of them. Arrangements should be made in such a way that they like to be the volunteer adventures who are prepared to undertake risks for achieving higher goal aspiration. Non-monetary incentives in the form of social esteem, recognition, self-fulfilment etc should be within the reach of the accountants courageous enough to point out the unethical conduct discernible in the accounting practices of their respective employers.

Third, the accountants should enjoy a high degree of independence. The more independent they are, the more probable is the non-vulnerability of their custodian role.

In the USA the two journalists who were instrumental in exposing the Watergate scandal leading to the resignation of President Nixon are now enjoying '*la dolce vita*'—better placement, higher emoluments and superior social recognition. In India journalists of this description perhaps would either be beaten or killed; what is certain is that they would be unemployable for life. There is no accountant in India who can boast that, after exposing the unethical conduct of accounting practice of the firm where he earns his living, he has been inundated by lucrative employment offers from more reputable firms. The policies surrounding the working environment of the Indian accountant is such that it breeds mediocrity and conformism. I suggest a change in this politics.

Privatization and deregulation are increasingly being resorted to in the erstwhile socialist states of eastern Europe. The Peoples' Republic of China has found it convenient to fuse free market system with command economy model. India is slowly but steadily following the footsteps of free market economy. In such an economy competition and efficiency go hand in hand. The new politics that I speak of thrives best under a system where accountants compete with one another on the strength of their integrity, independent frame of mind and reputation for upholding ethical standards.

Codes, rules, regulations etc are not the law that regulates the human conduct. Following Lord Moulton it can be said that there are at least three domains that affect an accountant's sense of ethical judgement : (1) the area of free choice, (2) the area of obedience to the unenforceable, and (3) the area of law. An accountant has hardly any

free choice left to him except in a limited number of instances. The remaining two areas, the domains of obedience to the unenforceable and law, are interrelated. "They intertwine and complement each other. Obedience to law in a free society is of the essence, but law observance would come to naught unless the members of that society were not also deeply devoted to the precept of obedience to that which they cannot be forced to obey (Windal and Corley, 1980, p.4). Lord Merton designates the domain of obedience to the unenforceable as the world of truth, ethics, morals, aesthetics and the like.

The unenforceable is enforced only when the accountants are made to understand that their enlightened self-interest lies in exposing all unethical practices in the field of accounting. It is only when the society is prepared to reward them for their services that they would come out of their shell of subservience and say "We are free !"

It is common experience that because of the system of punishment and reward operating in a given society, or even in the domain of economic operations, the accountants are willy-nilly forced to behave in a predictable way. In governmental organizations they are expected of many things except anything creative or exemplary. The accountants there know for certain that if their innovative endeavours go wrong they are not likely to go punished. They also know that for doing work in an unimaginative or routine way there waits no punishment whatsoever. In the world of private business, trade and commerce, the reverse holds true. Working in a routine or unimaginative sort of way is the surest way to get fired. Innovative or truant way of accounting is likely to be visited by profuse rewards. Here again, rewards are tuned to the advantages secured for the company where the accountant earns his daily bread. Innovation and compliance with the law or accepted standards are not by themselves enough to fetch rewards.

My feeling is that under the present system only the pedestrian and the successful hoodwinkers thrive best. All others are marginalized. It seems that the system needs overhauling in such a way as to accommodate the legitimate aspirations of the accountants in terms of money, status and fame within a scheme tailor-made to reward the law-abiding and creative accountants. Whatever be the worth of the accountants in the eyes of their employees they should be protected by law to do their job unhindered. Similarly, the meek job-doers with so capacity for innovation need reprimand.

Codes of ethics are not inviolable. They are violated to serve individual, familial and group interests. If ethics is redefined in a positive way to favour the cause of the enlightened, aspiring, public spirited accountant instead of threatening to pehalise him, the accounting profession and the domain of ethical conduct get united in a non-hypocritical bond of love.

Long live enlightened self interest !

### End Notes

1. Oliviera, A. Johnson further mentioned "..... Let us characterize, ethics as a systematic inquiry into man's conduct with the purpose of discovering both rules that ought to govern human action" (p.4)
2. According to Jones et al, "..... the term ethics applies not merely to the various approved codes but also to the activity of appraising and perhaps revising these codes" (p.2)
3. The base – superstructure controversy has not yet been solved in Marxist theory. Gramsci and later the Euro- communists granted much more autonomy to the superstructure than the earlier brand of Marxists. In recent history the base- superstructure controversy has acquired a new significance in the writing of French Marxists. For example, Poulantzas, grants much more autonomy to the political superstructure than Lojkine, who thinks that the base 'overdetermines the superstructure'.

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## TAXATION AND THE CAPITAL STRUCTURE OF COMPANIES IN NEW ZEALAND MANUFACTURING INDUSTRY

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The author examines the influence of taxation on the Capital Structure of companies in New Zealand manufacturing industry. According to the survey, taxation has some influence on the financial behaviour of companies and that this influence is not negligible.

### Introduction

The main objective of this paper is to examine the influence of taxation on the capital structure of companies. An important decision facing companies requiring new finance is whether to raise equity or debt. In raising finance, the question of taxation arises because interest on debt is tax deductible. Where the tax consideration is of prime importance, companies might be expected to issue more debt capital, other things remaining the same. But empirical studies on debt ratio determinants (see for example, Titman & Wessels, 1988, Long & Malitz, 1985) were not consistent. In fact, there is relatively little empirical evidence on how companies select between financing instruments at a given point in time (Marsh, 1982).

This study throws some light on a number of interesting issues such as whether companies' management think that they have target debt ratios, whether companies adopt extremely levered capital structure, factors that are considered to be important in selecting financing instruments and how important taxation is as compared with other factors in choosing a particular form of finance.

### Theoretical Background

Prior to Modigliani and Miller's (1958) study, the "traditional view" assumed that there was an optimal point of gearing for any given firm (Solomon, 1959; Donaldson, 1961; Schwartz, 1962; Gordon, 1963) and that the financing decisions of the firms were not irrelevant. Several other studies offered evidence that companies in aggregate appeared to attempt to keep a target debt ratio (Bosworth, 1971; Taggart, 1977). Ang (1976)

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and Marsh's (1982) findings confirmed this at the individual firm level and consistent, and less direct evidence was also provided by Lev and Pekelman (1975) and Brealey, Hodges and Capron (1976).

M & M (1958) assert that in a perfect capital market, the overall cost of capital is independent of the proportion of debt and preference shares in the capital structure of the firm. A number of studies demonstrate that the M & M capital structure irrelevance theory holds under a fairly general set of assumptions (Fama & Miller, 1972; Stiglitz, 1969, 1974; Miller, 1977).

De Angelo and Masulis (1980) demonstrate that under a more realistic model of the tax regime that includes non-debt tax shields such as depreciation and investment tax credit, an optimum degree of leverage may exist for each firm regardless of whether leverage-related costs are significant or not. Moreover, they show that the existence of significant leverage related costs in the absence of non-debt tax shield also suggests an optimum degree of leverage at the level of the individual firm.

Both Miller (1977) and De Angelo and Masulis's (1980) models have been challenged because of their assumption that all payments to debt-holders are tax deductible. There are studies which distinguish between interest payments and repayment of principal under alternative assumptions about the behaviour of companies regarding payment in default (see, for example, Park and Williams, 1985; Zechner and Swoboda, 1986). These studies suggest that pure tax arguments are not sufficient to support the firm's optimal capital structure as suggested in De Angelo and Masulis (1980). There are other considerations which need to be incorporated into the model to offer a sensible solution to the firm's optimal capital structure. Such considerations may include existence of agency costs (Jensen and Meckling, 1976; Scott, 1977), corporate taxes and bankruptcy costs (Kraus and Litzenberger, 1973), asymmetric information (Ross, 1977) and regulatory costs (Marcus, 1983).

Myers (1984) and Myers and Majluf (1984) argue for a pecking order theory based on asymmetric information. Under this theory firms will rely initially on available internal finance to finance new projects. If this source proves inadequate then the firm may decrease its dividend payment to generate more internal funds. Finally, if more funds are needed the firm may resort to external finance beginning with debt, then hybrid securities and finally equities. These studies clearly indicate that the type of funds to be used in financing a project will very much depend on the costs of issue.

### **Previous Empirical Studies**

The influence of taxation on the capital structure of companies is a matter for empirical testing.

There are studies which indicate that executives regard tax as a very important debt ratio determinant (Stonehill et al, 1973). On the other hand, other studies failed to find any significant independent effect on debt ratios (Williamson, 1982; Long & Maliz, 1983; and Taub, 1975). One survey study also indicated that the tax system had not influenced corporate management's attitude towards either equity financing or debt finance (Alam, 1985).

Bosworth (1971), White (1974) and Taggart (1977) provided evidence that both the level and structure of interest rates were important determinants of the level of long term debt issues.

Several studies indicate that leverage increases with fixed assets, non-debt tax shields, growth opportunities and firm size and decreases with volatility, research and development expenditures, bankruptcy probability, profitability and uniqueness of the product (Bradley, et al, 1984; Castanias, 1983; Kester, 1986; Titman & Wessel, 1988).

Marsh (1982) pointed out that his findings indicated that firms behave as if they had target gearing ratio in mind when raising outside finance. His study also suggested that larger and more capital intensive companies were likely to employ relatively more debt. Other studies also indicate that asset structure and size have an effect on leverage (Bennett and Donnelly, 1993; Myers, 1977; Scott, 1977). Bray (1967) and Gupta (1969) indicated that total debt ratios were positively related to growth, typically measured as sales growth.

Overall, the corporate financing behaviour is still the subject of considerable controversy. It is not clearly known how firms choose the debt, equity or hybrid services they issue (Myers, 1984) and how important tax is in the process.

### **Methodology**

The objective of this research was to evaluate the relative importance of tax compared with other factors as far as the raising of outside finance is concerned. It is not likely that an answer to this issue can be found by building complex macro-economic models and more fruitful method adopted in this research was to carry out a sample survey concerning the management's perception of the role of tax in the financial behaviour of companies in the New Zealand manufacturing industry.

The data used in the research was obtained from a self-administered questionnaire sent to the 'Chief Executive' of 115 companies. These

included all public manufacturing, mining and exploration companies listed on the 'Datex Investment Service'.

The questionnaire was pretested using a small sample. The final set of mailings consisted of the questionnaire itself, a cover letter and a stamped, self-addressed reply envelope. An identical follow-up mailing pack was also sent to the non-respondents approximately three weeks after the original questionnaire was mailed.

Respondents were guaranteed that complete confidentiality would be maintained and it was also suggested that responses which they felt to be too confidential could be omitted.

To remedy the problem of divergence between actual and reported behaviour,  $\chi^2$  (Chi-square) tests were carried out to check for inconsistencies between respondents' declared policies and their reports of actual practices.

The questionnaire design, sample characteristics and response rate are discussed followed by the results of the  $\chi^2$  tests.

### **Questionnaire Design**

The construction of a reliable questionnaire is of vital importance. In this case a number of techniques were adopted to increase the likelihood of obtaining valid responses. These included a number of questions with alternative answers to induce the respondents to select the answers which corresponded most nearly to this desired response, logically interrelated questions randomly ordered so that inconsistencies may be detected easily and some open ended questions also in order to encourage respondents to express their own viewpoints.

### **Sample Characteristics**

The survey was conducted in a way that the companies represent a wide cross-section of major industrial categories.

The distribution of companies surveyed by industrial groups is shown in Table 1.

The survey was so designed that large, medium and small companies would be represented. The classification of firms by size is indicated in Table 2.

**Table 1 : Distribution of Companies by Industrial Groups**

	No. of Companies	Percentage of Total	No. of Responses	Percentage of Total
1. Apparels & Textiles	14	12.2	6	10.3
2. Automotive	7	6.1	3	5.2
3. Building & Construction	18	15.7	6	10.4
4. Electronics & Appliances	4	3.5	2	3.4
5. Engineering	14	12.2	7	12.1
6. Fertiliser & Chemicals	6	5.2	4	6.9
7. Food	7	6.1	5	8.6
8. Forestry	3	2.6	1	1.7
9. Frozen Meat & By-products	9	7.8	7	12.1
10. Fuel & energy	5	4.3	2	3.5
11. Liquor & Tobacco	7	6.1	1	1.7
12. Mining & Exploration	10	8.7	4	6.9
13. Printing & Packaging	6	5.2	5	8.6
14. Rubber & Plastics	5	4.3	5	8.6
	<b><u>115</u></b>	<b><u>100.0</u></b>	<b><u>58</u></b>	<b><u>100.0</u></b>

**Table 2 : Classification of Firms by Size**

	No. of Companies in Sample	% of Total
Large firms (sales over \$50 m)	44	38.3
Medium sized firms (sales from \$10 m to \$50 m)	48	41.7
Small firms (less than \$10 m of sales)	23	20.0
	<b><u>115</u></b>	<b><u>100.0</u></b>

## **Response Rate**

Altogether 58 replies were received but three of them were not usable. So 55 usable replies were received giving an effective overall response rate of 49.1% (55/112).

The response rate by company size is shown in Table 3.

**Table 3 : Response Rate by Company Size**

	No. of Responses	Response Rate %
Large firms	21	47.7
Medium sized firms	26	56.5
Small firms	8	36.4
	<u>55</u>	<u>49.1</u>

The wide industry coverage and the response rates achieved, which are quite high for this type of survey, have ensured that the result is representative of New Zealand industry.

## **Survey Results and Discussions**

A summary of the main replies to the questionnaire is given in tabular form as an appendix to this paper. The replies give an indication not only of the importance of taxation in decisions made regarding the raising of company finance but also key factors which affect decisions in this area and whether the decision makers believe that there is an optimal debt equity ratio. The main pattern of responses is outlined below.

### *Deduction of Interest Payments and Reliance on Debt*

Interest on borrowed capital is a deductible expense for tax purposes but dividend on equity capital is not. In view of this fact it is important to know whether the tax system encouraged the decision makers to rely more heavily on debt rather than equity capital. When respondents were asked whether their decisions on raising outside finance were influenced by the taxation system in favour of raising more loan capital than they would if dividends and interest payments were treated in the same way for tax purposes, a majority of them replied it did (58%). This percentage was even higher in the case of large firms (61.9%). This reply indicates that tax may play an important role in shaping the pattern of finance.

### *Factors Influencing the Pattern of Finance*

An understanding of the likely effects of taxation on the raising of finance requires the fullest possible information on the factors which

influence companies in making these decisions. From the replies it appears that interest rates and debt equity ratio are the most important factors in raising finance. Very few firms indicated the tax deductibility of interest was an important factor in raising outside finance. The reason may be that in raising finance the companies initially consider debt equity ratio and interest rates. Once they are happy with these, the tax factor has become an important issue in selecting financing instruments.

#### *Firms' Borrowing and Taxation*

It is interesting to know whether firms would borrow more, less or the same, if interest on borrowing were not allowed as a deductible expense for tax purposes. The replies suggested that a great majority of respondents (75%) were of the opinion that they would borrow less if interest on borrowing were not allowed as deductible expense for tax purposes. This response suggests that the decision makers opt for cheaper finance where possible and gives support to Myers and Majluf's (1984) pecking order theory.

#### *Extremely Levered (Geared) Capital Structure and Taxation*

There are suggestions that although the tax system favours the use of debt capital, firms in practice do not adopt extremely levered (geared) capital structures. The replies indicate that the majority of respondents (82%) in practice do not adopt extremely levered (geared) capital structures despite the tax benefits attached to the use of debt.

The reasons given for not adopting an extremely geared capital structure include risks, higher gearing clouds long term thinking and lower gearing helps borrowing at favourable terms.

#### *Optimum Debt Equity Ratio*

There are studies which assume that there does exist an optimal point of gearing for any given firm (Solomon, 1963; Schwartz, 1959; Schwartz & Aronson, 1967). On the other hand, there are other studies which oppose the above view (see, for example, Modigliani & Miller, 1958). To get an idea about this, a question was asked whether respondents believed there was an optimal debt equity ratio for their companies.

The majority of respondents (78%) indicated that there was an optimal debt equity ratio for their companies. This was more so in the case of large firms (85.7%). From their comments it appeared that there was a range of acceptable debt equity ratios depending on the nature of the business with a rule of thumb figure being 40% debt to 60% equity.

It is interesting to note that there was a significant difference between the percentage responses of large firms and those of small firms in indicating that there was an optimal debt equity ratio for their companies. Probably large firms raise more debt finance and they consider that debt equity ratio is important in the process of raising finance. Marsh's (1982) results also support the hypothesis that companies have target debt levels and that these targets are influenced by firm size, risk and asset composition.

#### *Importance of Tax in Raising Finance*

To have a better understanding of the taxation effects one question asked was how important taxation is in relation to other factors in making decisions on the raising of finance. A majority of firms (62%) replied that taxation was "extremely" and "very" important in their decision on raising outside finance with 29% replying that taxation was "moderately" important. This response was strongest in the case of large firms (81%) but was less so in the case of medium (46.2%) and small (62.5%) firms. One can get the impression from the above reply that the taxation is important and it cannot be totally ignored in the financial decision making process.

It may appear conflicting that many companies did not consider tax as a determining factor in selecting a particular form of financial instruments but the majority of them think that tax is extremely and very important as compared with other factors when they make their decision on raising outside finance. The real issue is that once the decision makers are comfortable with the debt equity ratio and interest rates, then they consider the tax factor in issuing either debt or equity. It is reasonable for them not to resort to more debt finance only because of deductibility of interest expense for tax purposes. On the other hand, they will issue more debts if the debt equity ratio and interest rates permit them to do so. In short, the decision makers generally opt for cheaper finance where possible.

There was a significant difference between the percentage of large companies and the percentage of small and medium sized companies regarding the importance of tax in raising outside finance. A greater proportion of large firms consider tax as extremely and very important in comparison with other factors in raising outside finance. There was no significant difference between small and medium sized firms.

#### *Relationship between Responses*

Additional light is likely to be thrown on respondents reaction to taxation and selection of financial instruments if relationships between responses are analysed. This has been done by setting up

cross-tabulations and calculating the  $X^2$  measure for each selected relationship.

Chief executives' attitudes as expressed in their responses to the questionnaire, would be consistent if those stating that they believed that the company tax system encouraged them to rely more heavily on debt also felt that they would borrow less if interest on borrowing were not allowed as deductible expense.

The contingency table for those responses is shown in Table 4 below.

**Table 4 : Taxation & Debt Finance**

<i>Tax System encourages debt</i>	No tax deductibility of interest			
	Borrow Less	Same	N/A	Don't Know
Yes	26	4	1	1
No	12	7	0	0
No opinion	3	0	0	0
No reply	0	0	0	1
Total Responses	41	11	1	2

Chi-square = 33.00

significance = 0.0001

From this table it can be seen that statistically significant support (at the 0.0001 level) has been provided for the view that those companies which consider that the tax system encourages debt finance also believe that they would borrow less if interest on debts were not allowed as deductible expense.

### **Some General Comments**

About three fifths of all respondents submitted comments of a general nature and the contents of these varied widely.

Quite a substantial number of respondents mentioned that tax rates should be reduced. Some of the respondents were of the view that the company tax and fringe benefits tax should be deductible in the company's hands and that the tax system should not inhibit growth and should encourage capital formation.

### **Conclusion**

From the analysis of replies a number of interesting findings did emerge. Firstly, the tax system encouraged companies to borrow more than otherwise would be the case. Secondly, the tax system by itself

cannot be a determining factor in raising outside finance, the majority of respondents indicate that interest rates and debt equity ratio are the most important factors in influencing financial behaviour of companies.

Although the cost of debenture or debt finance may be cheaper in view of tax deductibility of interest paid than equivalent equity finance, the majority of respondents do not favour a highly geared position.

It is interesting to note that a great majority of respondents further indicate that there is an optimal debt equity ratio for their companies. These targets are affected by risk and company size.

The majority of respondents also consider taxation to be extremely and very important as compared with other factors in raising outside finance.

There were significant differences in the reported attitudes of companies of various sizes. More large firms reported that they considered tax to be extremely and very important and far fewer small and medium sized firms considered tax the same way.

The overall conclusions which emerge from the survey responses are that taxation has some influence on the financial behaviour of companies and that this influence may not be negligible, since it is large companies which are more sensitive to taxation related benefits.

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## SOME THOUGHTS ON MANAGEMENT OF LIQUIDITY

*Dr. Tanmoy Datta\**

The major objective indicators of the problem of liquidity always remain in the background, obtainable only through enquiry from various internal and external sources. The author suggests that managing of liquidity is a labyrinthine process and deserves a contingency approach.

The term "liquidity" possibly has its origin in physical sciences. 'Liquidity' means the property of liquid. Matters in liquid state can be easily converted to any physical form. In case of a solid it is difficult to do so.

Later, in 1918, according to the Shorter Oxford English Dictionary, the term 'liquidity' first came into its commercial use, conveying the meaning how promptly an asset is convertible to cash. Because, cash is, by definition, the most liquid asset. Other assets have varying degrees of liquidity.

Without going further through many introductory details, it can be reminded that although each and every discipline has developed and is developing its own vocabularies, many technical terms have occupied place in more than one discipline, however conveying divergent meanings. And even in a particular discipline, the same technical term is in use for various contextual meanings.

Likewise, Financial Management literature also contains various contextual meanings of the term 'liquidity'. Of them, two contextual meanings are quite distinct—(i) liquidity of a firm, and (ii) liquidity of individual assets held by the firm.<sup>1</sup> Generally, the former refers to the firm's ability to meet its current cash obligations—or in a different expression, the firm's ability to raise cash when needed—while the latter refers to the speed with which the assets are convertible into cash.

Again, liquidity of an asset may be viewed from two different angles : (i) the speed with which the assets are maturing into cash in the ordinary course of business, and (ii) the ease with which cash can be arranged against hypothecation or pledge of the assets.

Ordinarily, a firm's ability to raise cash depends on its ability to raise cash against its assets, either through their maturation in the usual course of business, or through their hypothecation or pledge. But, a firm may

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have the ability to raise cash against the physical properties and personal standing of its owners too. Moreover, in case of need, a firm may arrange cash from its owners, depending on the owners' ability and willingness to finance the firm, even for non-commercial considerations. In essence, besides the quality of individual assets the firm holds some other factors also may assume a vital role in manoeuvring the liquidity position of a firm. Thus, 'liquidity' functionally refers more to the liquidity of a firm than the liquidity of individual assets. Precisely, "liquidity" functionally refers to the firm's ability to raise cash when needed. Here, the ability implies only the potential ability, immaterial whether exercised or not.

Again, in the expression 'ability to raise cash when needed', the phrase 'when needed' refers to the timing of cash needs which in its turn depends on the volume and timing of operating activities of the firm. However, cash needs also depend on the firm's schedule of other financial commitments like debt servicing, dividend payment, etc.

Thus, the overall liquidity of a firm depends on a combination of both 'the ability to raise cash' and 'the timing of cash needs'.

This timing of cash needs may well be regulated by manipulating the timing of operating activities, either deliberately or under compulsion, with a view to avoiding immediate cash obligations and thus avoiding a problem of liquidity. In case of a private firm this may be a righteous approach, in the sense that after all it is basically guided by profitability criteria. Loss minimisation is as good an objective as profit maximisation. But, in case of a public enterprise the major objectives are expected to be attained through physical performances or the performances tangibly beneficial to the society.

In one approach, therefore, if an enterprise either fails to implement its operating programmes in time or cannot implement it at all, due to shortage of funds or for not being able to procure funds in time, the enterprise may be said to be suffering from low liquidity.

Liquidity in general encompasses both planned liquidity and protective liquidity. While the former refers to the ability to raise cash as per forecast need, the latter refers to the ability to meet any unforeseen payment obligation.<sup>2</sup>

Protective liquidity factor is quite important in case of both private firm and public enterprise. It is important even for the public enterprises which are essentially financially dependent on various grants, subsidies, and budgetary support. Because, the quantum of funds originally sanctioned and the funds actually released by a government for its enterprises vary widely from time to time. The timing of fund release also not always correspond with the timing of cash need. Therefore, to cope

with such contingencies, such enterprises also should maintain a certain degree of protective liquidity, or 'liquidity buffer' in Van Horne's terms.

One important dimension in this context is the liquidity-profitability interface. In one sense, they are positively related. Healthy liquidity helps profitability, while profitability, i.e., capacity to generate funds from within, is no substitute for anything that can ensure a better liquidity. Again, they are inversely related in the sense that while in many growing business situations, profitability curve goes up, liquidity curve goes down.<sup>3</sup>

In terms of prioritisation, however, liquidity assumes greater importance than profitability. One established theory is that while profitability is the condition for the ultimate survival, liquidity is the condition for the immediate survival of a firm. Specifically speaking, a highly profitable firm may die due to lack of liquidity, while a firm can peculiarly survive without making profit or even by incurring losses for long.<sup>4</sup> This is particularly relevant to the public enterprises where different grants, subsidies, and budgetary support often tend to replenish the funds depleted by operations, either under sociopolitical compulsion or as a matter of government policy.

While 'liquidity' technically refers to an enterprise's ability to raise cash when needed, liquidity management essentially implies the process through which an enterprise can maintain a reasonable degree of liquidity on a continuing basis and thus can effectively synchronise its inflow and outflow of funds.

However, while managing liquidity the basic approach of a private firm is understandably different from that of a public enterprise, in a private firm the concern for both liquidity and profitability may reasonably go hand in hand, where a trade off between the two is said to be the ideal. Hence, in a private firm, while giving *prima facie* emphasis on profitability, liquidity also gets due importance automatically. But the same approach cannot possibly hold good in case of a public enterprise. As already mentioned, public enterprises are entitled to various grants, subsidies and budgetary support as a matter of government policy. Again, the public enterprises wholly owned by the government have no commercial obligation to declare dividend, immaterial whether there is any implicit expectation or explicit guidelines for that. Moreover, it is not unusual to see that the funds provided by the government by way of loan is subsequently declared interest-free. Besides, most of the public enterprises work in a non-competitive environment. Understandably, therefore, it is difficult to conceive that such enterprises can be operated purely on commercial lines. Furthermore, in some public enterprises commercial and non-commercial objectives are so inextricably mixed up that they cannot be envisaged as commercial undertakings. Above all, a good number of State level public enterprises are established purely on

non-commercial grounds, for the upliftment of certain backward or underprivileged communities of the society.<sup>5</sup>

Hence, in case of a public enterprise, the primary emphasis reasonably goes to the physical performance towards attaining the objectives for which it is established and a major prerequisite for achieving these physical performances is the maintenance of a reasonable degree of liquidity. Thus, liquidity assumes key importance here, profitability being relegated to the secondary position. Or otherwise, it can be contended that here profitability gets importance primarily in the context of liquidity, recognising the fact that profit is the major source of fund generated from within.\*

From the foregoing conceptual base and factual judgement, it is now possible to identify the major determinants of liquidity of a firm. Only three out of them, under suitable headings, are now in order, albeit not following any linear logic. After all, managing liquidity is a labyrinthine process.

## 1. Inherent Structural Phenomena

### (a) *Internal Vs. External Capital, or Capital Mix, or Financial Leverage :*

Although it may be attractive to the Management from the viewpoints of profitability and growth, or to the owners desirous of 'trading on equity', a highly geared capital structure automatically assumes a great burden of loan instalments. It certainly tends to shake the liquidity position of a firm, even if it is conceded that the burden of interest and that of dividend are mutually exclusive, the former being a statutory obligation while the latter a commercial one.

### (b) *Block Capital vs. Working Capital :*

From liquidity point of view, the functioning of a block capital-intensive firm is more challenging in nature than that of a working-capital-intensive firm. Through the process of utilising the installed capacities, gradual conversion of block capital to working capital takes place. Any departure from this usual course disturbs this conversion process and thus tends to create a problem of liquidity. Hence, to ensure a smooth conversion of block capital to working capital, both proper utilisation of serviceable fixed assets and immediate disposal of unserviceable ones are imperative.

As a sidelight, it may be mentioned that the trend of ratios of block capital and working capital can provide an objective indicator of the

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\* This secondary importance of profitability is quite exposed in the organisation culture of the public enterprises, particularly of those in the special category status of the North-East India.

improving or deteriorating trend of liquidity position of a firm. It is understandable that the interrelationship of block capital and working capital is sometimes negative, sometimes positive. In some cases, an investment in block capital reduces the burden of working capital, e.g., owned office building vs. rented office building. Again, in some cases, an investment in block capital demands corresponding investment in working capital, e.g., installation of one machine requires at least one operator. Now, in case of a firm normatively characterised by a positive interrelationship of its block capital and working capital, if it is observed that the trend of block capital is upward and the working capital downward, it certainly indicates that the firm is approaching towards illiquidity. And this trend can well be calculated from the published accounts which are somewhat accessible to the external analysts, at least at the office of the Registrar of Companies.

(c) *Working Capital Structure, or, Composition of Working Capital Components :*

Some working capital components are more prone to illiquidity, some are less. Performance may be made of two critical components : inventories and receivables. Ordinarily, inventories are less liquid because it converts into cash through receivables. Importantly, inventories are more prone to illiquidity because of the fact that many slow-moving and non-moving items tend to pile up in the process of building up of stores. Maybe, the procedure followed for maintaining stores is not appropriate. Maybe, some ulterior motives of the store dealing personnel creep into the process.

Similar is the case with receivables. Ordinarily following the same credit policy, with the increase in volume of sales the volume of receivables also increases and thus more and more commitment of fund to receivables becomes imperative. Understandably, extension of credit is the supplier firm's choice for the benefit of the own, but any move for the withdrawal of this facility would certainly be disapproved by the customer firms. Moreover, any lax in the collection policy obviously drags the supplier firm to a receivables trap<sup>6</sup> supply the second lot and get the payment for the first, needing thereby more and more commitment of fund to receivables, and thus the whole process tends to make receivables less and less liquid.

## **2. Operating Efficiency or Capacity to Generate Funds from Within**

Capacity of a firm to generate fund from within may be analogous with the capacity of a human body to generate blood from within. Any debility in this area adversely affects the financial health of the firm causing sickness of different kinds and degrees.

A firm suffering from depletion of funds by operations for long is just like a leukemia patient. So long as fresh blood can be injected and the body is in a position to accept it, the patient can survive, however not being able to lead a normal life. Similarly, a firm incurring losses for long can somehow survive so long as replenishment is done by injecting fresh capital. This is quite evident from the public enterprises of the special category States, where routine budgetary support replenishes the funds depleted by operations.

### 3. Potential for Arranging Funds on Contingency Basis

"Cash Credit" arrangement with a bank is possibly the most convenient source of finance for a firm to cope with its contingent requirements. In this context, therefore, the real world situation as for bank financing deserves special mentioning.

Understandably, because of their faceless ownership, the nationalised banks have to depend heavily on their employees for financing the client firms judiciously. But the fact is that not all the bank personnel entrusted with this job are well conversant with the nature of business of the applicant firms. Consequently, while processing the application for a cash credit limit, observance of prescribed formalities tends to become more important than the assessment of actual requirement of the firm. And this is quite spontaneous. The very organisational set-up of the nationalised banks, bureaucratic or nearer to that, tends to make their employees more concerned about 'accountability' than 'responsibility'.\*

Under the circumstances, it is not possibly illogical to think that establishing rapport with the bank personnel at personal level and submitting documents as per their requirements are more paying than preparing and submitting projected balance sheets and profit and loss accounts in a realistic manner.

Now, coming to the question of identification of the problem of liquidity of a firm, it can be categorically said, may be at the risk of redundancy, that any mechanical interpretation with the help of conventional liquidity ratios based on published accounts may lead to erroneous conclusion. Besides the fact that they are ordinarily susceptible to manipulation, the year-end figures fail to represent the seasonal factors of the business of a firm. That apart, stock clearance sale, special drive for collection of receivables, and the like initiatives tend to mar the year-end figures to the representative of the actual state of affairs of a firm.

\* Responsibility here refers to 'felt obligation', something internal to an individual. If one feels responsible, he or she is responsible, otherwise not.<sup>7</sup>

Trends of ratios, of course, can provide better insights into a firm's liquidity. For example, as already elaborated, the trend of ratios of block capital and working capital can indicate the overall liquidity trend of a firm. However, trends of ratios are not always strong enough to explain the actual state of affairs of a firm in respect of its liquidity. Because, inflation is so certain a factor now-a-days and the published accounts are not stabilised, the trends of ratios do not always correspond to reality or nearer to that. In essence, any analysis based on published accounts depict only partially the financial affairs of a firm.

Factually, the major objective indicators of the problem of liquidity of varying degrees always remain in the background, obtainable only through enquiry from various internal and external sources. For example, the financial failure of a firm as for servicing its different organisational participants like managers and other employees, material suppliers, customers, money lending institutions, owners, and government, clearly manifests the problem of liquidity of different magnitudes. The specific areas of debility may be tentatively listed in the following framework.

Servicing Agencies	Debility on the part of a firm
Government	Failing to deposit various taxes within stipulated dates
Material Suppliers	Stretching payables
Customers	Failing to maintain delivery schedule for lack of production
Managers and other employees	Failing to clear their dues, apart from salaries and wages, e.g., medical bill, T.A. bill, bonus, etc., and failing to deposit the P.F. amounts to appropriate funds
Money lending institutions	Failing to maintain the schedule of interest and loan instalments

All these information can be collected from internal as well as external sources. And, to a considerable extent, the reliability of the information collected from one source can be verified from the information collected from the other. That is, there always remains a scope of cross-checking the information collected from the two sources.

Finally, while revisiting along the foregoing winding path of liquidity, it can be reminded, as a passing remark, that managing of liquidity, more specifically of illiquidity, is a labyrinthine process and, therefore, deserves

a contingency approach. The underlying idea is that there cannot be one best way to do anything. Everything is contingent upon the situational factors, internal (controllable) and external (non-controllable).

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### OBITUARY

Mrs Rama Kashinath, Director (PD&P) of The Institute of Cost and Works Accountants of India, died on 8th November, 1995. She was a life member of the Indian Accounting Association.

Mrs Kashinath joined the Institute in early 1980s and rose to the position of Director of Professional Development and Programme in 1994. Among her various activities, Mrs Kashinath successfully represented the Institute in many management development programmes organised by the ICWAI or those organised by the ICWAI jointly with other bodies like NPC, ICAI, etc. She was also interested in international accounting and presented papers at many international accounting conferences in India and abroad. Among them the 11th CAPA Conference held in New Delhi in November 1982, the Sixth International Conference of the International Association for Accounting Education and Research (IAAER) held in October 1987 in Kyoto, Japan, the 7th Conference of the IAAER held in Arlington, USA, in October 1992 and the World Congress of Accountants held in Washington, USA, in October 1992 are worth mentioning. Mrs Kashinath was also an active member of the IAA and attended many of its national and regional conferences.

The members of the IAA condole the sad and sudden demise of Mrs Rama Kashinath and do not find appropriate words for expressing their sympathy to the members of the bereaved family.

Let the departed soul be rest in peace in heavenly above.

# **INTERNATIONAL CONFERENCE NEWS**

## **Third International Accounting Conference**

**January 4–5, 1997**

**Grand Hotel, Calcutta**

### **Invitation**

The Third International Accounting Conference of the Indian Accounting Association Research Foundation will be held in Calcutta, India, in January 4-5, 1997. The main theme of the conference is "**Accounting In Changing Perspectives**". The conference will provide an opportunity for accounting academics and practitioners to discuss and assess the developments which are taking place in various spheres of accounting throughout the world. To an accounting academic or practitioner, this conference will provide an excellent opportunity to present research findings or exchange views and meet academic and professional challenges.

### **Call For Papers**

Major Topics of interest are :

1. Accounting in a Global Perspective
2. Government Accounting
3. Accounting for Mergers, Acquisitions and Joint Ventures
4. Emerging Trends in Accounting Research
5. Tax-Effect Accounting
6. Development of Capital Markets with special reference to India.

Presentation of papers and discussion will be held in **concurrent sessions**. There will be a number of plenary sessions to be chaired by distinguished academics and practitioners. Paper presentations and panel discussions in any area of the above-mentioned topics are invited.

### **Instructions for Contributors**

1. Each contributor should submit three typed, double spaced, copies of the full paper along with an abstract, not exceeding 200 words, in English.
2. Each submission should include a separate title page on each copy, listing author(s), affiliation(s), address(es), telephone number(s), and FAX number(s). The main body of the paper, or abstract, should have a title but no author identification.

3. All submitted papers will be subject to blind review. The submission of a paper for review means the author certifies that the manuscript is not copyrighted, and has not been published elsewhere. Accepted papers will be published in the Conference Proceedings only if their authors register and attend the conference.
4. All submissions must be received by August 31, 1996. Notification about the decision will be made by September 30, 1996.

Mail your registration of interest, paper etc. to :

**Dr. J. B. Sarker**  
Department of Commerce  
Calcutta University  
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**Dr. Bhabatosh Banerjee**  
Visiting Professor  
Department of Accounting  
Rutgers University, New Brunswick  
New Jersey 08903, U.S.A.  
Fax : (908) 445-3201.

### **INTERNATIONAL ASSOCIATION FOR ACCOUNTING EDUCATION AND RESEARCH (IAAER)**

#### **Eighth International Conference on Accounting Education *The Changing World of Accounting : Global and Regional Issues***

**First Announcement  
October 23-25, 1997, Paris (France)**

The objective of the Association is to represent accounting educators and researchers to encourage and promote interest in all aspects of accounting education and research internationally, including the assistance in organizing and planning periodic international conferences on accounting education.

The Association is both an organization of individual members from some thirty-five countries and a federation of academic organizations from all continents.

The 8th conference on accounting education will be held jointly by the International Association for Accounting Education and Research and the Association Francaise de-Comptabilite. The convention will take place immediately before the 10th World Congress of the International Federation of Accountants, October 26-29, in PARIS.

Previous conventions met in the United States (1962), the United Kingdom (1967), Australia (1972), West Germany (1977), Mexico (1982), Japan (1987), Washington DC (1992). Paris is most attractive in October and still offers some of the best entertainment in the world.

The theme of the conference is "The Changing World of Accounting : Global and Regional Issues" and deals with the following subjects :

<b>IAAER EXECUTIVE COMMITTEE 1992-97</b>  <b>Sidney Gray, President</b> University of Warwick, U.K.  <b>Belverd Needles, Secretary-Treasurer</b> DePaul University, Chicago, IL, USA  <b>Vice-Presidents :</b> <b>Bhabatosh Banerjee</b> University of Calcutta, India  <b>Alain Burlaud</b> Conservatoire National d' Arts et Metiers, France  <b>Adolph Coenenberg</b> University of Augsburg, Germany  <b>Yukio Fujita</b> Waseda University, Japan  <b>Roger Hopkins</b> Victoria University of Wellington, New Zealand  <b>Salvador Ruiz-de-Chavez</b> National University of Mexico  <b>Past Presidents</b>  <b>Murray Wells</b> University of Sydney, NSW, Australia  <b>Paul Garner</b> University of Alabama, Emeritus, USA	<ul style="list-style-type: none"> <li>* Comparative Accounting Systems</li> <li>* Managerial Accounting in Multinational Corporations</li> <li>* Cultural Influences on Accounting</li> <li>* International Accounting Harmonization</li> <li>* Impact of International Accounting Differences</li> <li>* Stock Markets and Accounting Diversity</li> <li>* Comparative Auditing Systems</li> <li>* International Financial Reporting Issues</li> <li>* Accounting and the Environment</li> <li>* Accounting Education in Developing Countries</li> <li>* Accounting Education in Changing Economies</li> <li>* Implementing Advanced Technologies in Accounting Education.</li> <li>* New Curricula in Accounting Education</li> <li>* Teaching Innovation in Accounting Education</li> <li>* Information Technologies in Accounting Education</li> </ul>
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## CALL FOR PAPERS RULES FOR MANUSCRIPT SUBMISSION

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Use the **registration of interest form** for paper submissions. For coauthored papers, fill in the name and address of the contact person.

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**INTERNATIONAL ACCOUNTING RESEARCH :  
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**EIGHTH ASIAN-PACIFIC CONFERENCE  
ON INTERNATIONAL ACCOUNTING ISSUES  
October 13-16, 1996  
Vancouver, Canada**

The Eighth Asian Pacific Conference on International Accounting Issues will be held on October 13-16, 1996, in Vancouver, Canada. The main theme of the conference is "Capital Market Developments and the Role of Accounting." 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.

**Conference Registration Fee :** Registration fees of US \$250 per delegate covers a reception, 2 breakfasts, 2 luncheons, 1 dinner (Banquet and Entertainment), a copy of the proceedings and a one-day tour.

**Best Paper Award :** The best four papers will each be awarded US \$500, to be selected by a panel of distinguished reviewers.

**Conference Hotel :** The conference will be held at the Westin Bayshore Hotel, a five-star hotel in Vancouver. Rate for Single/Double occupancy is C\$125 per night.

**Deadline for paper submission :** All submissions must be received by May 15, 1996. Notification about the decision will be made by June 30, 1996.

Mail all papers, panel discussion, and workshop proposals to :

Professor Ali Peyvandi or Professor Benjamin Tai  
Asian-Pacific Conference on International Accounting Issues  
The Sig Craig School of Business  
California State University-Fresno  
5245 North Backer Avenue  
Fresno, California 93740-0007, USA  
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benjamin tai @csu fresno.edu

## IAA BRANCH NEWS

### VARANASI BRANCH

The Varanasi Branch of the Indian Accounting Association has been revived. Following members have been unanimously elected to the Executive Committee of the Branch for 1995-96.

- |   |                     |
|---|---------------------|
| (1) Prof. S. N. Mehrotra,<br>Ex-Head & Dean,<br>Faculty of Commerce, B.H.U. | .... President      |
| (2) Dr. Rajendra Kumar Sah,<br>National Winders, Varanasi.                  | .... Vice-President |
| (3) Prof. M. N. Mishra,<br>Ex-Head & Dean, Faculty of Commerce, B.H.U.      | .... Vice-President |

(4) Dr. M. B. Shukla, Mahatma Gandhi Kashi Vidyapath, Varanasi	.... Secretary-cum-Treasurer
(5) Dr. B. D. Gujarati	.... Member
(6) Prof. H. S. Kulshrestha	.... Member
(7) Dr. Vinay Kumar	.... Member
(8) Shri Mukul Sah	.... Member
(9) Dr. A. R. Tripathi	.... Member
(10) Dr. S.K. Varma	.... Member

The Local Branch has been quite active after the revival. It organised a Seminar on Social Audit on 18th May, 1995 in the Faculty of Commerce & Management Studies, Mahatma Gandhi Kashi Vidyapith, Varanasi. Prof. S. N. Mehrotra was the Chief Speaker. Prof. H. S. Kulshrestha, Dr. B. D. Gujarati, Dr. S. K. Varma, and many other delegates have participated in the discussion. Prof. R. C. Sharma, Head & Dean of the faculty, presided.

A lecture on "Tax Reforms in Indirect Taxes" by Sri B. P. Srivastava Commissioner, Custom and Central Excise, New Delhi, Government of India, was jointly organised by I.A.A., Varanasi Branch and Varanasi Branch of C.I.R.C. of Institute of Chartered Accountants of India, at Paradkar Bhawan, Varanasi on 7th October, 1995. Prof. S. N. Mehrotra presided and Sri B. D. Gujarati introduced the Speaker and the Chief Guest Sri T. R. Tamta, Commissioner of Income Tax (Appeals). Prof. H. S. Kulshrestha, Dr. S. K. Varma, Prof. R. C. Sharma, Dr. K. M. Pandey and many other members participated.

The above functions were conducted by Dr. M. B. Shukla, Secretary of I.A.A., Varanasi Branch.

### GOA BRANCH

The members of IAA in and around Goa have formed IAA Goa Branch which will be operated at the Department of Commerce, Goa University, Goa-403 203. The following members have been elected to the Branch Executive :

President	: Dr. M. Modassir, Managing Director of GDDIDC;
Vice-President	: Shri I.M.D' Souza, Practising Company Secretary;

Secretary & Treasurer : Dr. B. Ramesh, Goa University  
Member : Dr. B. Ramkotaiah  
Member : Mr. Savari Muthu  
Member : Dr. C. N. Sontakki  
Member : Dr. J. P. Pathak  
Member : Mrs. Purva Hedge Desai

Prof. D. Prabhakara Rao, the General Secretary of IAA presented the profile of IAA at the formal inauguration of Goa Branch on 28th October 1995 by Shri Louzinho Faleiro, the Minister of Industry, Labour and Employment, Dept. of Goa. In this context, a One-Day Seminar on Financial Services Industry in India was organised by Goa University. Thoughtful papers on Financial Services were presented by Mr. R. Hariharan of CRB Capitals Ltd.; Prof. D. Prabhakara Rao of Andhra University; Prof. G. C. Maheswari of M. S. University of Baroda; Mr. R. D. Kamat of ACGL, and Mr. Suresh Rao of Goa. Lively discussion took place after the presentations.

### **OTHER BRANCHES**

Prof. A.R.M.REHMAN, Head, Dept of Commerce, Dibrugarh University (Assam) and other members in around Dibrugarh University, have formed IAA Dibrugarh Branch to be operated from the Department of Commerce, Dibrugarh University, Dibrugarh (Assam).

Prof. Sujit Sikidar and other members in around Gauhati University have formed IAA Gauhati Branch to be operated from the Dept. of Commerce, Gauhati University, Gauhati (Assam).

Prof. Vinayaham, Head, Madras University's P.G. Extn. Dept of Commerce at Salem and other members in around Madras University, have formed IAA branch to be operated from Salem (Tamil Nadu).

### **INDIAN ACCOUNTING ASSOCIATION CALCUTTA BRANCH NEWS**

Indian Accounting Association, Calcutta Branch, held its Annual General Meeting on 4 November 1995 at the Management House, Institute of Social Welfare and Business Management, College Square, West.

The meeting was preceded by a seminar in which Mr. A. Bose, Vice-President, Finance and Accounts, Haldia Petro-Chemical Ltd.,

Calcutta, presented a paper on 'Globalisation of the Indian Capital Market : the Accountant'.

Dr. J.B. Sarker, Secretary, IAA, welcomed the members, invitees and the participants. Prof. S. Bhattacharya, Chairman of the Calcutta Branch, IAA presided over the seminar.

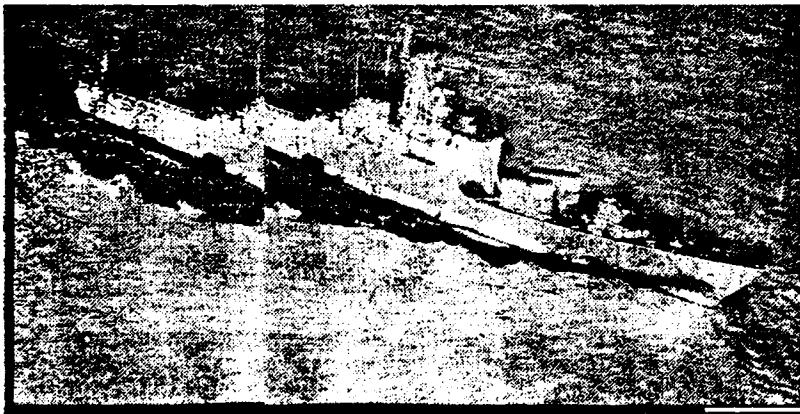
Mr. A. Bose in his paper dealt at length with the impact of globalisation —both short-term and long-term—on the Indian Capital Market. He also pointed out the orientation that will have to be given in the accounting practices to accommodate those changes. He concluded the paper by pointing out the present gaps in the reporting practices of the corporate sector in India vis-a-vis the same in the developing countries.

After the presentation of the paper, a lively dicusson ensued. Prof. P. Chattopadhyay, Dr. B.K. Chatterjee, Dr. T.S. Roy, Shri Manipadma Dutta, Dr. J.B. Sarker & Prof. S. Dhar sought clarification on some issues raised by Mr. Bose in his paper.

The seminar ended with a vote of thanks by Prof. I.K. Chatterjee, Vice-Chairman of the Branch.

Needless to say, the seminar was lively and it was largely attended by the members and the invitees.

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## 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 College of Commerce and Management Studies, M. L. Sukhadia University, Udaipur-313001, 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. 750	US \$ 100
Annual	Rs. 100	\$ 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

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(Sd/-) Dr. D. Prabhakara Rao  
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