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INDIAN ACCOUNTING ASSOCIATION

EDITORIAL

The current issue contains seven articles in different areas of accounting and auditing in addition to the Presidential Address by U. L. Gupta. Saurav K. Dutta and Rajendra P. Srivastava in their article analyse the various measures of the strength of evidence and demonstrate that the likelihood ratio provides an appropriate measure of the strength of evidence. Also, they use the likelihood ratio to define positive, negative and confirming evidence and argue that the likelihoods provide an easier representation of uncertainty for audit planning and evaluation. V. K. Vasal discusses the deficiencies in the existing national accounting system in India and stresses the need for its 'thorough overhaul'.

Khondkar E. Karim, Philip H. Siegel and John T. Rigsby in their article review research into the audit quality and audit switching in addition to review of empirical tests of audit quality, audit credibility, knowledge spillover and auditor-auditee bonding 'theories. G. Soral makes a comparison of doctoral researches in accounting in India with those in the States, analyses the reasons for gap and then suggests the 'agenda' for the future. In the next article, A. K. Basu explores the key conceptual and procedural issues concerning the preparation and presentation of cash flow statement and suggests some improvements in the form and content of the statement in order to enhance its usefulness. M. B. Shukla discusses macro accounting and gives a framework for globalization era. In the last article, S. P. Kaushik and V. K. Gupta deal with pros and cons of globalization of tax reforms in India in the context of international trade. The articles by V. K. Vasal, G. Soral and S. P. Kaushik and V. K. Gupta respectively were given 'best paper award' in the respective sessions of the XIX Annual Conference of the Indian Accounting Association.

As usual, the international conference news section contains a number of information for the interested readers. Besides, the announcements, reports, etc. section, an addition to this issue, provides many useful information.

Lastly, I express my thankfulness to the associate editors, members of the Editorial Board, office-bearers of the Indian Accounting Association, office-bearers of the local branches and members for their cooperation and support.

June 22, 1996

B. Banerjee
Chief Editor

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Presidential Address

*U. L. Gupta**

Hon'ble Chief Guest, Respected Vice-Chancellor, esteemed office bearers of the Indian Accounting Association, other luminaries on the dias, distinguished guests, learned fellow delegates, ladies and gentlemen.

It is my proud privilege to welcome you all to this XIX All India Conference of the Indian Accounting Association being held in Ujjain, a city of great historical importance, under the auspices of Pt. Jawahar Lal Nehru Institute of Business Management, Vikram University. On the eve of 1996, I wish you all a very happy and prosperous New Year. May the new year bring to each one of you all happiness, promotion, progress and prosperity in all spheres of life.

I am grateful to you for having bestowed upon me the great honour of serving the Indian Accounting Association in the capacity of its President during 1994-1995. With your permission, I deal in short with the role of accounting and that of our Association in changing economic scenario today.

Accounting is the language of business. It records the business transactions, classifies, tabulates and analyses them to furnish meaningful data/information for efficient running of a business enterprise. The pattern of business and industry determines the scope of accounting. The Indian economy is undergoing a sea-change with growing emphasis on liberalization and globalization. Now, there is a greater stress on deregulation, privatisation and foreign investment. The doors of the economy have been thrown open to multinational giants to establish, expand and grow business establishments, forcing Indian industries to compete with them. The entire industrial and marketing scenario is changing and will drastically change. Revolution in communication media will make people living in the interior-most parts of the country aware of the latest developments in consumer products. Combined with the population explosion that is there, an unimaginable market will grow for consumer products. Many new industries particularly in the service sector will come up. Agriculture too will get the status of industry. Increasing thrust on tourism will require more hotels, more transport and travelling facilities. The pattern of financing industry is also changing. Lease

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* Delivered at the XIX Annual Conference of the Indian Accounting Association at Pt. Jawahar Lal Nehru Institute of Business Management, Vikram University, Ujjain (December 26-27, 1995).

financing is becoming more and more important. New corporate scrips have come into being.

These and many other changes will necessitate changes in accounting procedures and practices with more emphasis on computerised accounting. More transparency in accounting is now being pleaded. The traditional courses of accounting being taught at present in our universities and colleges will have to be constantly updated to come up to the expectations of the industry devolving more responsibility on the leaders of accounting. A separate department of accounting at every university is the dire need of the day. The Indian Accounting Association should take up the responsibility of restructuring the accounting courses to better suit the present day requirements of business and industry and suggest them for adoption by the Indian Universities. In the new courses, the Indian System of Accounting with needed modifications should get its due weightage as even today most of the Indian concerns maintain their accounts on Indian System.

Indian Accounting Association by its deeds, actions and membership should become a strong non-Government, non-statutory accounting body, so strong that it becomes difficult for the Government to ignore its consultation and suggestions pertaining to accounting and finance. For this, it is essential to have a strong membership base amongst academicians, practitioners, corporate sector, businessmen and industrialists. Today, its membership is very thin—mostly confined to teachers of Accounting. Corporate membership is almost non-existent, though the Association provides for it. Increased membership both amongst individuals and corporate units will provide a strong base to its acceptability, popularity and financial strength. Membership drive has been made during the last one and a half years. As a result, new chapters have been established at many places particularly in the South. But it is hardly a small fraction of the ultimate target. The drive has to be continued with greater zeal and enthusiasm. Every member should take a vow to get enrolled at least two new members to see the membership growing in geometric progression.

I may be permitted to draw your kind attention to the almost hand to mouth financial position of the Indian Accounting Association. No institution can grow and perpetuate without a strong financial base. The Association brings out twice a year a Journal in Accounting which consumes almost all the present day yearly collections of the Association. Hardly any funds are left for other activities. This again necessitates a wider membership more particularly amongst corporates. Earnings from commercial ads in the Journal can also augment resources. This drive needs to be taken as a challenge. Every member should therefore exploit his resources in this direction.

During the last one and half years, the Indian Accounting Association has had some noteworthy achievements also to its credit. As a part of its efforts to promote excellence in Accounting education, research and practice among young social scientists, a 'Young Researcher Award' has been instituted. It has also been decided to reward the best published Annual Report. Entries for these awards for 1995 have already been invited. An Accounting Standards Committee had been formed to critically analyse the Indian Accounting Standards and to suggest modifications therein. I understand that the Committee have made some valuable recommendations and these will be published in the next issue of our journal for information of all concerned. The Committee on Accounting Education has been working on to suggest accounting courses at the under-graduate and post-graduate levels. It has also been decided to felicitate distinguished accounting personalities connected with Indian Accounting Association. All these activities need to be continued with greater zeal and vigour, in future to make the existence of the Association felt.

Before I conclude, I once again extend to you all my hearty welcome and thank you for listening to me so attentively.

Jai Hind.

U. L. Gupta
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Former Head, Dept. of Accounting and
Dean, Faculty of Commerce & Management
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December 26, 1995

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A BAYESIAN PERSPECTIVE ON THE STRENGTH OF EVIDENCE IN AUDITING

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Rajendra P. Srivastava†

This paper provides a mathematical definition of the strength of evidence in the Bayesian framework for the (1) positive evidence, (2) negative evidence, and (3) confirming evidence. This rectifies the earlier definitions of these concepts which depend on the prior probability and the posterior probability and thus lead to inconsistencies. The definitions discussed in this paper are based on the likelihood ratio and thus depend on the intrinsic properties of the evidence. Further, a simple example is used to illustrate how aggregation of various items of evidence on an audit can be facilitated by the use of likelihood ratio as a measure of the strength of evidence.

1. Introduction

This paper has two objectives. First, development of a mathematical definition for the strength of evidence in the Bayesian framework that depends on the intrinsic properties of the evidence. This definition is extended to describe (1) positive evidence, (2) negative evidence, and (3) confirming evidence. Second, it shows how the above definition can facilitate the evidence aggregation process in the planning and evaluation of an audit.

For the auditors it is important to determine the nature and the strength of evidence. The auditor must know whether an item of evidence supports or refutes an assertion. He must also assess how strongly the evidence supports or refutes the assertion. In fact, there have been several studies that deal with the notions of positive and negative, and strong and weak, items of evidence (see e.g., Ashton & Ashton 1988; Tubbs, Messier and Knechel 1990). These studies, however, do not mathematically define these notions. A mathematical definition of these notions is imperative to provide a structured approach to auditing. Moreover, such a definition

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is fundamental in constructing decision support systems and expert systems for auditing.

Toba (1975) in the original work on theory of evidence dealt with some of the above notions. Later, Kissinger (1977) extended Toba's work by eliminating several oversights and conceptual difficulties. However, as shown in Section II, even the modified theory by Kissinger [hereafter referred to as Toba-Kissinger (TK) framework] is found to be deficient in dealing with the above notions. In the TK framework, the strength of evidence depends on the prior probability of the assertion, a factor extrinsic to the evidence. This in turn leads to the following anomalies : (1) A positive item of evidence, however weak, is confirming when the prior is greater than 0.5. (2) An item of evidence may be confirming for a high prior but may not be confirming for a low prior. (3) The strength of evidence depends on the order in which the evidence is obtained.(4) An item of evidence which is confirming for the negation of an assertion may become confirming for the assertion when combined with another independent item of evidence. Thus, the TK framework which provided the initial conceptual foundation for the theory of evidence in auditing is found to be inappropriate for defining the strength of evidence. In principle, the strength of evidence should not depend on the prior probability of the assertion or on the order in which the evidence is collected, rather it should depend on the intrinsic properties of the evidence.

After reviewing the literature in philosophy, mathematics and law, we find that there are four types of measure of the strength of evidence (Jeffrey 1983; Hacking 1965; Schum & Martin 1982; Tribe 1971; Good 1983). These measures are based on (1) the posterior and prior; (2) the difference of likelihoods; (3) the likelihood ratio, and (4) the log-likelihood ratio. The first two measures suffer from the same deficiencies as the TK framework and will not be discussed in the paper. The last two measures, unlike the TK framework, define various notions of positive, negative, strong, and weak items of evidence without any anomalies.

The remainder of the paper is divided into five sections. Section II demonstrates the anomalies with the TK framework. Section III discusses the notions of positive, negative, weak, and strong items of evidence. Section IV discusses the notion of confirming evidence. Section V illustrates how the strength of evidence based on the likelihood ratio facilitates aggregation of evidence in evaluating as well as in planning an audit. Section VI concludes with a brief summary.

II. Toba-Kissinger Framework

Toba (1975) defined positive evidence as an item of evidence which increases the belief in the assertion. In other words, if E represents an item of evidence and a represents the assertion then according to Toba,

E is positive evidence if the posterior is greater than the prior, i.e. $P(a|E)>P(a)$. Also, according to Toba an item of evidence E is confirming when it renders the assertion more likely than its negation, i.e., $P(a|E)>P(\sim a|E)$. However, as pointed out by Kissinger (1977), the above definition of confirming evidence was deficient and led to internal inconsistencies. For example, an item of evidence while supporting an assertion may simultaneously be confirming the negation of the Assertion.[1]

Kissinger (1977) modified Toba's (1975) definition of confirming evidence to eliminate the above anomaly by defining an item of evidence E to be confirming for an assertion a if $P(a|E)>P(a)$ as well as $P(a|E)>P(\sim a|E)$. Thus, an item of evidence had to be positive in order to be confirming for the assertion. This modification removes the earlier mentioned anomaly, but is still fraught with many problems of its own, as discussed below.

First, the characterization of evidence (as positive or confirming) depends on the prior probability, i.e., an item of evidence which is positive for an assertion when the prior probability is low, is both positive and confirming for the assertion when the prior probability is high. For example, suppose the prior is 0.2 and the evidence obtained is positive and weak which yields 0.3 for the posterior. Then, such an item of evidence is just supporting the assertion but not confirming it. However, if the prior were 0.7, then the posterior for the same evidence considered above would be 0.76[2]. In this case, the evidence is confirming the assertion, a strong item of evidence. In fact, any positive evidence, however weak, is a confirming item of evidence when the prior is 0.5 or greater. Thus, in the TK framework, the characteristic of an item of evidence is based on the prior probability of the assertion. The prior is not an intrinsic property of the evidence, rather it is a subjective opinion of the observer. The characteristics of the evidence should be based only on the intrinsic property of the evidence and not on extraneous factors.

Second, in the TK framework, the order in which an item of evidence is collected determines whether the evidence is confirming or not. Consider the scenario in which the auditor receives two items of positive evidence. Suppose the prior probability on the assertion a that 'the accounts receivable are collectible' is 0.2, i.e., $P(a)=0.2$. The auditor then learns that the major debtors of the client are in good financial position. Suppose

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[1] Assume $P(a) = 0.2$, and $P(a|E) = 0.4$ then $P(a|E)>P(a)$ which means E is positive and supports a. But, we also find that $P(\sim a|E) = 0.6 > P(a|E) = 0.4$ which implies that E is confirming $\sim a$. The statements are contradictory to each other.

[2] The item of evidence which would increase the probability in the assertion from 0.2 to 0.3, can be characterized as $P(E|a) = 0.4$, and $P(E|\sim a) = 0.27$. The same evidence when combined with a prior of 0.7 would result in a posterior of 0.76 by applying Bayes' rule.

this item of evidence, say E_1, increases the probability of collectibility to 0.4, i.e., $P(a|E_1) = 0.4$. Further, the auditor learns that for the last six months the collection has been good and there were very few bad debts. The second item of evidence, say E_2, further increases the probability of collectibility to 0.64[3], i.e., $P(a|E_1 \& E_2) = 0.64$. In this scenario evidence E_1 is positive because $P(a|E_1)>P(a)$, whereas evidence E_2 is confirming since $P(a|E_1 \& E_2)>P(a|E_1)$ and $P(a|E_1 \& E_2)>P(\sim a|E_1 \& E_2)$.

Now suppose the sequencing of the items of evidence is reversed. In other words, the auditor first obtains evidence E_2 and then receives evidence E_1. After receiving evidence E_2 the posterior becomes 0.4, i.e., $P(a|E_2) = 0.4$. Next, when he receives evidence E_1 then the new posterior becomes 0.64, i.e., $P(a|E_2 \& E_1) = 0.64$. In this case, evidence E_2 is positive, whereas evidence E_1 is confirming. Thus, it appears from the above discussion that the order in which an item of evidence is collected and processed determines whether the evidence is confirming or not confirming. Again, the characterization of evidence is based on a factor (order of evidence) which is not intrinsic to the evidence.

Third, anomaly with the TK framework is that an item of evidence could be confirming for $\sim a$, but when combined with another item of evidence could become confirming for a. For example, an auditor wishes to ascertain that the internal controls in the sales-collection cycle are good. He has a prior probability of, say, 0.6 i.e., $P(a) = 0.6$, and $P(\sim a)= 0.4$. The auditor learns that the company receives cash in mail in addition to checks, and the receptionist opens all the mail. This is a sign of poor internal control and thus the auditor revises his belief to 0.45 on a, i.e., $P(a|E_1) = 0.45$, and $P(\sim a|E_1)= 0.55$. Thus, E_1 is confirming evidence for $\sim a$ in the TK framework, since $P(\sim a|E_1) > P(a|E_1)$ and $P(\sim a|E_1) > P(\sim a)$. Next, the auditor learns that the functions of receiving, depositing, and recording cash receipts are properly segregated. Also, he finds that monthly statements to the customers (debtors) are sent on a regular basis and any complaints on the account are promptly resolved. All these are the signs of a good internal control system. This set of evidence is denoted as E_2 and the auditor revises his belief on a to 0.61, i.e., $P(a|E_1 \& E_2) = 0.61$. This situation makes the two items of evidence considered together confirming for a in the TK framework, since $P(a|E_1 \& E_2) > P(\sim a|E_1 \& E_2)$ and $P(a|E_1 \& E_2) > P(a)$. Thus, evidence E_1 is confirming for $\sim a$, and the same evidence in conjunction with E_2 as confirming for a. This seems counter intuitive as the characterization of a particular item of evidence should not change based on the nature of other evidence.

[3] Both items of evidence can be represented by likelihoods of $P(E|a) = 0.533$ and $P(E|\sim a) = 0.2$.

Finally, the nature of evidence in auditing is retrospective and not prospective. That is, the evidence collected after the fact is not an indicator of the event, but a consequence of it. Consider the following internal control procedure, proper authorization of credit sales. The auditor wishes to ascertain whether the procedure was being followed. In order to do so, he examines a sample of approved sales orders and verifies authorized signature and the credit limit. Based on his sample check of approved sales orders he will surmise whether the internal control procedure was being followed. The sample check is a retrospective evidence (based on time precedence and causation relation) for internal control procedure being followed. The TK framework is based on comparing the prior with the posterior, but the auditor has no knowledge of the posterior until the evidence is collected.

In summary, many anomalies in the TK framework have been identified. The characterization of evidence in the TK framework is based on extrinsic factors such as the prior and the order in which the evidence is gathered. Such a characterization of evidence lead to many inconsistencies as discussed earlier. Moreover, the framework compares the prior with the posterior, but the auditor has no knowledge of the posterior until the evidence is collected and assessed. The lack of an a-priori knowledge of the posterior inhibits the use of this framework for planning purposes. Thus, the TK framework with its anomalies has limited application in auditing.

III. Measure of Strength of Evidence Based On the Likelihood Ratio

Likelihood is defined as the probability of obtaining the evidence given the assertion. That is, $P(E|a)$ and $P(E|\sim a)$, are the likelihoods, where E is the evidence and a is the assertion. Fisher introduced the name likelihood (Fisher 1922). Since then, several writers have canvassed a 'likelihood principle', which states, that in assessing hypotheses in light of an item of evidence, only likelihoods matter (see, e.g., Savage 1961 ; Bimbaum 1962). Commenting on the importance of likelihood, Savage (1961) states that "Given the likelihood function in which the experiment resulted, everything else about the experiment ... is irrelevant." Good (1983) also asserts that the likelihoods have "sharp uncontroversial values." Since the likelihoods are intrinsic to the evidence, a measure of the strength of evidence based on the likelihood ratio will also depend on the intrinsic properties of the evidence. Further, it is cognitively simpler to construct probability assessments in terms of likelihoods (Kuippers & Kassier 1984). Thus, a measure based on likelihoods not only captures the intrinsic properties of the evidence, but also is easier to elicit. Such a measure may be helpful in constructing decision support systems and expert systems in auditing.

According to the likelihood measure, the strength of evidence, λ, equals the likelihood ratio (see, e.g., Hacking 1965; Schum & Martin 1982; Tribe 1971). The likelihood ratio for evidence $E(\lambda_E)$ is defined as :

$$\lambda_E = P(E|a)/P(E|\sim a) \quad (1)$$

This definition has a simple multiplicative property. If E_1 and E_2 denote two independent items of evidence, then the combined strength of E_1 & E_2 is the product of the individual strengths, that is, $\lambda_{E_1\&E_2} = \lambda_{E_1} \times \lambda_{E_2}$[4].

Positive, Neutral, and Negative Items of Evidence

A positive item of evidence is defined by a likelihood ratio of greater than one, i.e., $P(E|a)/P(E|\sim a)>1$. The definition implies that the posterior is always greater than the prior[5] for a positive item of evidence. This was the basic definition used in the TK framework. But in the present case it is the consequence of the definition. The higher the likelihood ratio, the stronger the positive evidence. In the limit when the likelihood ratio goes to infinity, the evidence becomes confirming evidence. The topic of confirming evidence will be discussed in the next section.

A likelihood ratio of unity implies that the evidence is neutral, i.e., the evidence does not contribute any new knowledge about the assertion. For example, since $P(E|a)/P(E|\sim a) = 1$, Bayes' rule will yield $P(a|E)P(\sim a)/P(\sim a|E)P(a) = 1$. The expression simplifies to $P(a|E) = P(a)$ which implies that the evidence has no effect on the prior. Thus, a likelihood ratio equal to one denotes irrelevant evidence, that is, attaining such an item of evidence will not affect our belief on the assertion.

Negative evidence is defined by a likelihood ratio of less than one. In such cases, the posterior decreases after the evidence has been observed, i.e., $P(a|E)<P(a)$. This property again is a consequence of the definition and not the definition as used in the TK framework. The following discussion shows how the definition of the negative evidence leads to the property $P(a|E)<P(a)$. Since $P(E|a)/P(E|\sim a)<1$, from Bayes' rule one

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[4] The Likelihood ratios for E_1, E_2, and E_1 & E_2, are given by $P(E_1|a)/P(E_1|\sim a)$, $P(E_2|a)/P(E_2|\sim a)$ and $P(E_1\&E_2|a)/P(E_1\&E_2|\sim a)$, respectively. Since $P(E_1\&E_2|a)= P(E_1|a)P(E_2|a)$ and $P(E_1\&E_2|\sim a) = P(E_1|\sim a)P(E_2|\sim a)$, as the two items of evidence are assumed to be independent, the likelihood ratio for $E_1\&E_2$ becomes the product of the likelihood ratio for E_1 and the likelihood ratio for E_2.

[5] For a positive item of evidence, $P(E|a)/P(E|\sim a)>1$. From Bayes' rule we know,

$$P(a|E)/P(\sim a|E) = P(E|a)P(a)/P(E|\sim a)P(\sim a)$$

Thus, for a positive evidence we can write :

$$P(E|a)/P(E|\sim a) = P(a|E)P(\sim a)/P(\sim a|E)P(a) > 1,$$

which implies that

$$P(a|E)P(\sim a) > P(\sim a|E)P(a),$$

or

$$P(a|E)\,[1-P(a)] > [1-P(a|E)]\,P(a),$$

or

$$P(a|E) > (a).$$

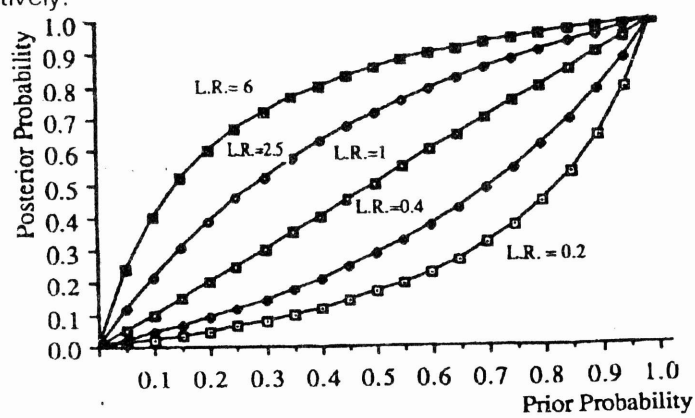
obtains $P(a|E)P(\sim a)/P(\sim a|E)\ P(a) < 1$. This expression yields $P(a|E)<P(a)$. The stronger the negative evidence the closer the likelihood ratio to zero.

Is Likelihood Ratio as a Measure of Strength of Evidence Free From Anomalies?

The measure of strength of evidence based on the likelihood ratio is free from the anomalies encountered by the TK framework. As seen in Figure 1, the posterior probabilities are higher for the stronger evidence. When the likelihood ratio is less than one, the evidence is negative. Thus, there is a decrease in the posterior probability. The stronger the negative evidence, the lower the posterior probability. The evidence with a likelihood ratio of 0.2 is stronger negative than the evidence with a likelihood ratio of 0.4. The evidence with a likelihood ratio of one is neutral evidence. It does not render any proposition more likely than the other. For items of evidence with likelihood ratios greater than one, the posterior probability is greater than the prior probability. The evidence with a likelihood ratio of 6 is stronger than the evidence with a likelihood ratio of 2.5. The curve denoting the posterior for the stronger evidence is higher than the curve denoting the posterior for the moderate evidence. Unlike in the TK framework, one can easily show that the strength of evidence based on the likelihood ratio does not change with the order in which the evidence is processed.

Figure 1

The posterior probability on the assertion is plotted against the prior probability for different likelihood ratios. The likelihood ratios (L.R.) of 0.2 and 0.4 represent strong and moderate negative evidence, respectively; likelihood ratio (L.R.) of 1 represents neutral evidence; likelihood ratios (L.R.) of 2.5 and 6 represent moderate and strong positive evidence, respectively.



Measure Based on Log-Likelihood Ratio

Another very prevalent measure of the strength of evidence is the logarithm of the likelihood ratio (Minsky & Selfridge 1961).

$$\text{Str (Evidence)} = \ln \text{(Likelihood Ratio)} \quad (2)$$

With this definition, the strength is additive : Str (E_1&E_2) = Str (E_1) + Str (E_2). The advantage of the logarithmic measure, over the measure based on the likelihood ratio, is that it measures the strength for both negative evidence and positive evidence on equal scales. The range of log-likelihood ratios for positive evidence is from 0+ to $+\infty$. The range of log-likelihood ratios for negative evidence is from 0– to $-\infty$. In contrast, the likelihood ratio measures the positive evidence on a scale of 1+ to ∞, but it compresses the negative evidence to a range of (0, 1).

Positive log-likelihoods denote positive evidence. The higher the number, the stronger the evidence. Negative log-likelihoods donote negative evidence. The higher the absolute value, the stronger the negative evidence. Log-likelihood ratio of zero denotes irrelevant or neutral evidence.

The likelihood ratio or the log-likelihood as measures of the strength of evidence are more appropriate than the Toba-Kissinger measure or the difference of likelihoods measure. The likelihood ratios do not refer to the prior odds. They capture the "intrinsic" strength of the evidence. The strength of the evidence is the same whether the evidence is introduced in support of an assertion that has been shown to be highly likely or in support of an initially implausible assertion. The strength of evidence, thus measured, is simply a function of evidence itself and not of extrinsic factors such as order and prior. In addition, the probability models based on likelihoods require assessment of fewer parameters and are 'portable' (Shachter & Heckerman 1987). Thus, in addition to being theoretically sound, likelihood ratio is also a more viable measure of strength of evidence from a decision support/expert system perspective.

IV. Confirming Evidence

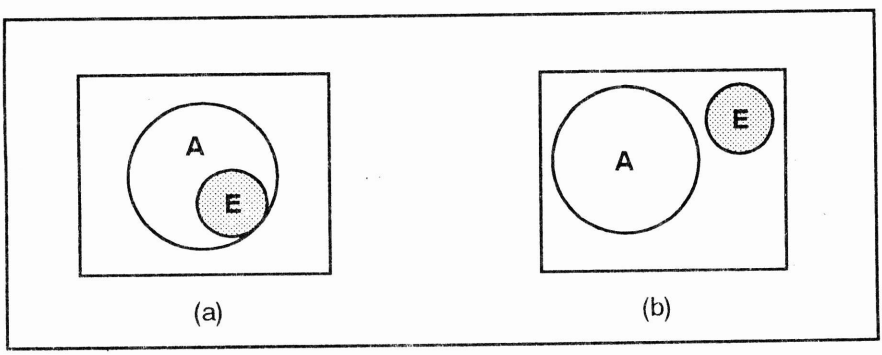
Prior to mathematically defining confirming evidence, it is important to distinguish between the two statements : (1) an item of evidence *E* is confirming for the assertion *A* and (2) the assertion *A* is confirmed after observing the evidence *E*. The two statements are not equivalent, however may erroneously be interpreted as being so. The first statement relates to an item of evidence or a set of items of evidence which, when observed, will provide confirming support that the assertion is met, irrespective of the prior probability of the assertion. Such an item of evidence (or a set of items of evidence) we will define to be confirming evidence. Whereas the second statement implies that, given the prior, observing an item of evidence (or a set of items of evidence) provides enough support that the assertion is confirmed. The first statement deals with the strength of

evidence in isolation, whereas the second statement deals with the overall support that the assertion is met. Both of these concepts are important for the auditor; the first one is needed for planning and the second one is needed for evaluation and to determine the extent of additional work that has to be performed in order to establish the assertion. We will first discuss the mathematical, *i.e.*, the ideal definition of a confirming item of evidence and then discuss an acceptable definition of when an assertion is established to be confirmed.

A confirming item of evidence is defined such that it is confirming for *all* priors. The notion of confirming evidence is regarded as an intrinsic property of the evidence and does not depend on extraneous factors as used in the TK framework. Figure 2(a) shows a Venn diagram for a confirming item of evidence. In this case, E is a confirming item of evidence for the proposition *a*. If we observe E, then we are sure that *a* is true. Suppose *a* is the assertion that, 'there is cloud in the sky'. The evidence *E* is that, 'it is raining'. We know that it can rain only if there are clouds. Thus, evidence *E* is a subset of the event *a*. Further, if we observe *E* then we are sure the *a* is true [$P(a|E) = 1$] regardless of the prior in *a*. An item of evidence is confirming for an assertion, if and only if, the likelihood of the evidence given the negation of the assertion is zero. *i.e.*, $P(E|\sim a) = 0$. In the above example, the conditional probability of rain given no clouds is zero. Thus, rain is a confirming evidence for clouds. Figure 2(b) shows an illustration of disconfirming evidence.

Figure 2

Diagrammatic Representation of Confirming and Disconfirming Evidence. (a) *E* is Confirming Evidence for *A*, (b) *E* is Disconfirming Evidence for *A*.

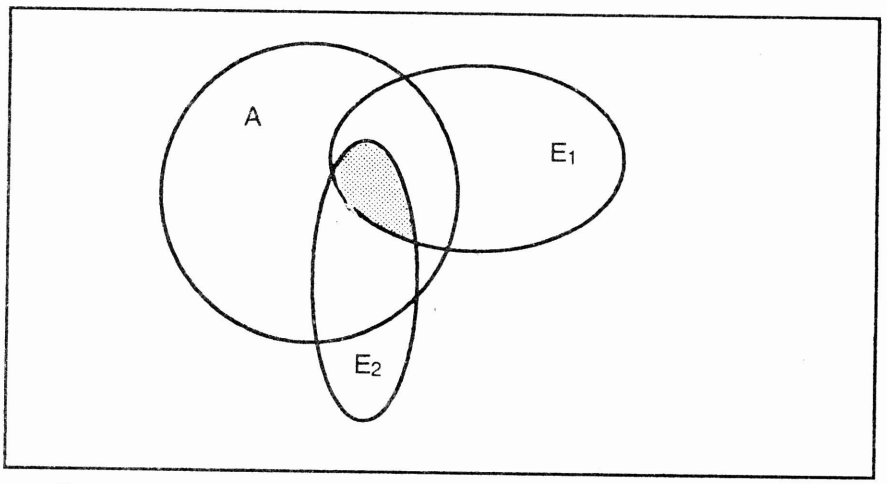


The above definition of confirming evidence yields a likelihood ratio of infinity, *i.e.*, $\lambda = P(E|a)/P(E|\sim a) = \infty$ for any value of the likelihood $P(E|a)$, since $P(E|\sim a) = 0$. This in turn yields $P(a|E) = 1$ for any value of the prior $P(a)$ and likelihood $P(E|a)$. Thus, in terms of likelihood ratio, an item of evidence is confirming if λ is infinity. Similarly, an item of evidence is disconfirming if λ is zero.

In auditing, very rarely will any single item of evidence be confirming. In general, a set of evidence is jointly confirming for a proposition. Thus the notion of confirming evidence should be broadened from a single item of evidence to a set of evidence. The set may consist of items of evidence which in isolation are merely suggestive, but when taken in conjunction with other evidence is confirming. Such a scenario is presented in Figure 3.

Figure 3

Diagrammatic representation of a set of evidence that is confirming. *A* is the assertion. E_1 and E_2 are two independent items of evidence. Individually, they are not confirming for *A*. But taken together they are confirming for *A*.



Consider the following scenario, an auditor discovers that the controller had signed two checks of $5,000 each to Beaux Painters, when the bill was only for $500 each. This could be an error of oversight, or it could be intentional, in which case it is a fraud. The evidence by itself renders only little support to fraud, because it is likely that the error was unintentional. Suppose, the auditor finds out that Beaux Painters is owned by the wife of the controller. The knowledge that the painting shop is owned by the controller's wife and the company does business with the painting shop may provide little support for fraud. However, the two items of evidence together, two significantly overvalued checks to the painting shop which is owned by the controller's wife, makes it conclusive that the controller is involved in fraud. This scenario is diagrammatically presented in Figure 3, where *a* is the assertion that there is management fraud, E_1 is the evidence that the wife of the controller owns a painting shop and the company does business with the painting shop, and E_2 is

the evidence that the controller had written two overvalued checks to that shop. The intersection of E_1 and E_2 is a subset of a, and thus confirming for a. In practice, auditors do consider an item of evidence in conjunction with the other evidence when making judgments.

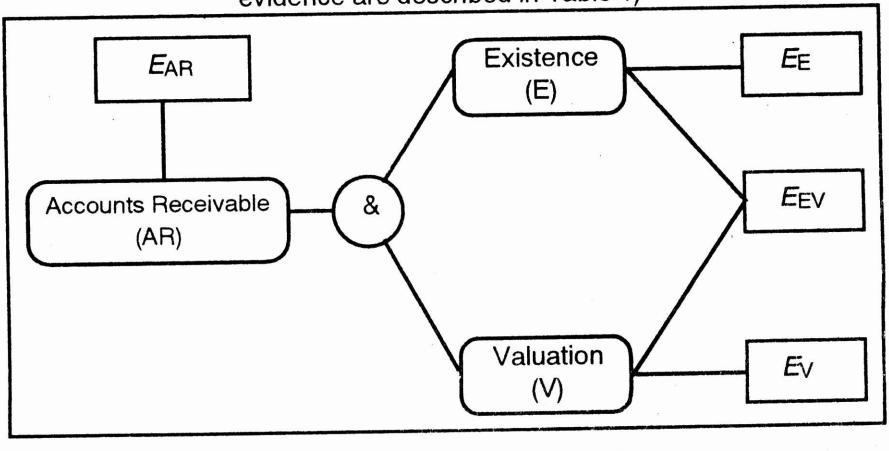
So far, we have discussed the definition of a confirming item of evidence, E (or a set of items of evidence, E) for a. This definition requires that the conditional probability for the evidence (or the set of items of evidence) given the negation of the assertion be zero, *i.e.*, $P(E|\sim a) = 0$ or the likelihood ratio be infinite, *i.e.*, $P(E|a)/P(E|\sim a) = \infty$. The definition yields a posterior probability of one when the evidence or the set of items of evidence are obtained, *i.e.*, $P(a|E) = 1$. But in practice, is it possible to obtain such an item of evidence (or a set of items of evidence) that would yield $P(a|E) = 1$? Maybe, but at an enormous cost. The auditor may not deem it necessary to be absolutely sure that the assertion is met. He may be satisfied with only 0.95 posterior that the assertion is met given the evidence. In fact, one does consider 95% confidence interval quite acceptable in statistical tests of hypotheses. Thus, we can assume similar criterion that irrespective of prior probability of the assertion when the posterior probability is 0.95 or more then we should accept the assertion to be true. This statement means that all the evidence together provide strong enough posterior that the assertion is acceptable.

V. Evidence Aggregation and Audit Planning

In this section, we show how likelihood ratio as a measure of the strength of evidence aids in aggregating evidence. We will discuss the aggregation process for planning and evaluation of an audit. The discussion is limited to a simple example given in Figure 4 as the purpose

Figure 4

Evidencial Network for Accounts Receivable (The rectangular boxes represent items of evidence bearing on various variables. These items of evidence are described in Table 1)



here is to illustrate the advantage of using a likelihood ratio measure for strength of evidence and how it facilitates the processes of audit evaluation and audit planning.

Evidence Aggregation for Audit Evaluation

Assume that the auditor is interested in determining whether the accounts receivable balance (AR) is fairly stated. For simplicity of exposition, we assume that AR has only two audit objectives, existence (E) and valuation (V). Let us call AR, E, and V as variables and assume that these variables are binary. In our case this means that the accounts receivable balance is either fairly stated (*ar*) or not fairly stated (*~ar*); the

Table 1

List of Items of Evidence (*i.e.*, Audit Procedures) gathered by the Auditor for Accounts Receivable Audit

Evidence bearing on AR (E_{AR})—Analytical Procedures : (i) Review accounts receivable trial balance for large and unusual receivables, (ii) Calculate ratios indicated in carry-forward working papers and follow up any significant changes from prior years. The tests results are favourable.

Evidence bearing on E (E_E)—Test of Transactions for sales being valid and cash receipts being complete : (i) Trace recorded sales from the sales journal to the file of supporting documents, which includes a duplicate sales invoice, bill of lading, sales order, and customer order. (ii) Obtain the prelisting of cash receipts, compare prelisting with the duplicate deposit slip and also trace amounts to the cash receipts journal, testing for names, amounts, and dates. The tests results are favourable.

Evidence bearing on V (E_V)—Test of Transactions for sales and cash receipts being properly valued : (i) Trace selected duplicate sales invoices numbers from the sales journal to : (a) Duplicate sales invoices, and check for the total amount recorded in journal, date, customer name and account classification. Check the pricing, extensions and footings. (b) Bill of lading, duplicate sales order, and customer order and test for customer name, product description, quantity, and date. (ii) Perform a proof of cash receipts. The tests results are favourable.

Evidence bearing on both E & V (E_{EV})—Test of Details of Balance : Confirm accounts receivable using positive confirmations above a given amount and perform alternative procedures for all confirmations not returned on the first and second request. The tests results are favourable.

existence objective is either met (e) or not met ($\sim e$); and the valuation objective is either met (v) or not met ($-v$). For the purpose of aggregating evidence, we will consider the relationship between the account balance, AR, and the two audit objectives, E & V to be an 'and' relationship. This relationship implies that 'ar' is true if and only if 'e' and 'v' are true.

Assume that the auditor accumulates four items of evidence in this case as described in Table 1 (Arens and Loebbecke, 1991). For simplicity of exposition, we consider a set of procedures as one item of evidence. The three variables AR, E and V in Figure 4 are connected through an 'and' relationship as described earlier. For simplicity, we consider only four items of evidence. Three of them bear individually on the three variables and the fourth one bears on E and V both.

Let us consider that the auditor has performed all the procedures and the evidence has been positive and fairly strong. These are numerically assessed as : $\lambda_{AR} = 2.5$, $\lambda_E = 4.0$, $\lambda_V = 4.0$, and $\lambda_{EV} = 5.0$. The posterior odds (that the account balance is fairly stated and all the objectives have been met given all the evidence) is given by[6] :

$$\text{Posterior Odds} = \frac{\lambda_E \lambda_V \lambda_{EV} \lambda_{AR} O_E O_V O}{1 + \lambda_E O_E + \lambda_V O_V} \qquad (3)$$

Assuming that all prior odds are one, *i.e.*, we have no prior knowledge about whether the account balance (AR) or the objectives (E and V) are in error then we obtain :

$$\text{Posterior Odds} = \frac{\lambda_E \lambda_V \lambda_{EV} \lambda_{AR}}{1 + \lambda_E + \lambda_V} \qquad (4)$$

or,

$$\text{Posterior Odds} = \frac{4.0 \times 4.0 \times 5.0 \times 2.5}{1 + 4.0 + 4.0} = 22.22$$

This yields the following posterior probability that the account balance is fairly stated :

$$P(ar | E_E \& E_V \ \& \ E_{E\&V} \ \& \ E_{AR}) = \frac{\text{Posterior Odds}}{1 + \text{Posterior Odds}}$$

$$= \frac{22.22}{1 + 22.22} = 0.9569$$

Thus, the set of procedures provide evidence which, in light of no prior knowledge, confirms that the accounts receivable is fairly stated. Note that each item of evidence, though positive, individually fails to confirm the assertion. Additionally, if the prior suggested an error in accounts receivable, this set of evidence may fail to confirm the assertion.

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[6] For the derivation of the formula , see Dutta and Srivastava (1993).

Audit Planning

A-priori of search evidence for planning of an audit is similar to the above case with one difference. In the case of planning, the auditor has to assess, a-priori, the likelihood ratios, *i.e.*, the strength of evidence that will be obtained after conducting the procedures. The strength of evidence, in general, depends on the extent, nature and timing of the procedures. Thus, the auditor has to make judgment about the extent, nature and timing of a procedure based on the desired level of the strength of evidence.

Continuing with the previous example, suppose the auditor is planning the audit at 0.95 level of posterior probability, *i.e.*, a posterior odds of 19, and has obtained all the evidence except E_{EV} (See Figure 4 and Table 1). Also, assume that the auditor has obtained the following values for the strengths : $\lambda_{AR} = 2.5$, $\lambda_E = 4.0$, and $\lambda_V = 4.0$. The desired level of the strength to be obtained from E_{EV} would be determined by solving (4) :

$$\text{Posterior Odds} = \frac{4.0 \times 4.0 \times 2.5 \times \lambda_{EV}}{1 + 4.0 + 4.0} = 19, \tag{5}$$

which yields

$$\lambda_{EV} = 4.275. \tag{6}$$

Thus, the auditor can plan the nature and extent of procedures which will furnish evidence of strength 4.275 on both existence and valuation objectives of accounts receivable. Failure to attain such strength of evidence may require performance of additional procedures. Thus, an a-priori knowledge of the required strength of evidence may aid the auditor in performing efficient audits.

VI. Conclusion

We feel that the concepts developed in this paper should aid the researchers in the area of expert systems and decision support systems. The researchers building expert/decision support system for the planning and evaluation phases of auditing will find these measures helpful in basing their systems on theoretical foundations. However, we did not address how the likelihood ratios can be obtained from qualitative and statistical evidence. We feel that this is an area of utmost importance and requires attention.

References

Arens, A.A. & Loebbecke, J.K., *Auditing : An Integrated Approach,* Prentice Hall, New Jersey, 1988.

Ashton, A.H. & Ashton, R.H., "Sequential Belief Revision in Auditing," *The Accounting Review,* (October, 1988), pp. 623-41.

Birnbaum, A., "On the Foundations of Statistical Inference," *Journal of the American Statistical Association,* LVII (1962) 269-306.

Dutta, S. and R.P. Srivastava, "Aggregation of Evidence in Auditing : A Likelihood Perspective", *Auditing : A Journal of Practice and Theory,* (Supplement, 1993)

Fisher, R.A., "On The Mathematical Foundations of Theoretical Statistics," *Philosophical Transactions of the Royal Society,* Vol. CCXXII (1922), 310.

Good, I. J., *Good Thinking : The Foundation of Probability and its Applications,* University of Minnesota Press, Minneapolis, (1983).

Hacking I., *Logic of Statistical Inference,* Cambridge University Press, London, (1965).

Jeffrey, R.C., *The Logic of Decisions,* (2 ed.) McGraw Hill, New York, (1983)

Kissinger, J.N., "A General Theory of Evidence as the Conceptual Foundation in Auditing Theory : Some Comments and Extensions", *The Accounting Review* (April, 1977), pp. 322.39.

Kuipers, B. and J. Kassier, "Causal Reasoning in Medicine : Analysis of a Protocol", *Cognitive Science,* 8:363-385.

Minsky, M., and Selfridge, O.G., "Learning in Random Nets," *Information Theory,* Colin Cherry, ed., London : Butterworths, (1961) pp. 335-347.

Savage, L.J., "The Foundations of Statistics Reconsidered", *Proceedings of the Fourth Berkeley Symposium on Mathematical Statistics and Probability,* I (1961), 583.

Schum, David A. and Anne W. Martin, "Formal and Empirical Research on Cascaded Inference in Jurisprudence", *Law and Society Review,* (1982), Vol. 17.

Shachter, R.D. and D.E. Heckerman, "Thinking Backward for Knowledge Acquisition", *AI Magazine,* Vol. 8:(3), Fall (1987) pp. 55-61.

Toba, Y, "A General Theory of Evidence as the Conceptual Foundation in Auditing Theory," *The Accounting Review* (January, 1975), pp. 7-24.

Tribe, "Trial by Mathematics : Precision and Ritual in the Legal Process, *Harvard Law Review,* (1971) Vol. 84 pp. 1324-1352.

Tubbs, Richard M., William F. Messier and Robert Knechel, "Recency Effects in the Auditor's Belief Revision Process", *The Accounting Review* (April, 1990), pp. 452-460.

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RE-ENGINEERING MACRO ACCOUNTING FOR INDIAN ECONOMY—SOME LESSONS FROM GLOBAL PRACTICES

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In the present research study an attempt has been made to outline some serious deficiencies in the existing national accounting system in India. In the light of the deficiencies observed and the prevalent global accounting practices, the major conclusion of the study is that the present national accounting system in India is due for a thorough overhauling. Specifically, the study has recommended re-engineering of the system under three major heads – performance, status, and overall accounting system.

I. Perspective

Accounting is a system of measuring economic data and communicating information resulting therefrom to the interested users for purposes of their economic decision-making. In economics, a broad distinction is drawn between economic decisions taken for problems that arise at the level of an individual or a firm and those that arise at the level of a society or a nation. Notably, the former set of problems falls in the domain of micro-economics and the latter, under that of macro-economics. Thus, micro-accounting can be defined as a system of measurement and communication of economic information that helps in economic decision-making at the level of an economic unit, say a firm. Likewise, macro-accounting is a system of measurement and communication of economic information that helps in economic decision-making at the level of, say, a national economy. That is, macro-accounting is concerned with the aggregates of economic activities or economic system as a whole. It deals, on the one hand, with such well-defined variables as the national/domestic output, employment levels, savings, investments, capital stock and general price level and, on the other hand, it is concerned with variables like general standard of living and well-being of people which, though not defined very precisely, are the ultimate goals of a national economy. Incidentally, it may be mentioned that macro-accounting is significantly different from micro-acounting in terms of such accounting issues as information users, user needs, objectives of reporting, bases of accounting and reporting models, and accounting environment (see IFAC, 1991).

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In this research study, a modest attempt has been made to outline some serious deficiencies in the existing national accounting system in India. Based on global accounting practices, the study has put forth a case for re-engineering the existing accounting system. The identified deficiencies and solutions associated with them are discussed in three major sections of the present study, sections 3 through 5. For proper appreciation of the urgent need to re-engineer the system, a brief review of the existing Indian national accounting system has been attempted in section 2.

2. Indian National Accounts

Like micro-accounting, national accounting deals with two aspects of an accounting entity, namely, performance (flows) and status (stocks). As far as measurement and reporting on annual economic performance (usually termed as 'economic growth') is concerned, a fairly evolved accounting structure to collect and disseminate information to the interested users exists in India. However, information on status variables is both scanty and sketchy. In the following paragraphs, these are discussed in detail in the Indian context.

Strange as it may appear, particularly in the light of a long history of the micro-accounting, the first official estimates of national income (performance) in India were released in the year 1954 based on the recommendations of the National Income Committee headed by P. C. Mahalanobis. The estimates covered a period from 1948-49 to 1950-51 with 1948-49 as the base year. This base year was later changed to the year 1960-61 and a revised series issued in August 1967. In January 1978 the base year was shifted again to the year 1970-71. Since February 1988, besides several other changes effected in the methods of measurement and formats of presentation of national economic aggregates, base year of data has been revised to 1980-81.

At present, inter alia, four consolidated accounts of the nation are being prepared and disclosed regularly by the Central Statistical Organization (CSO), Government of India, through its annual publication National Accounts Statistics (NAS). These accounts are, Gross Domestic Product and Expenditure Account (Production Account), National Disposable Income and Its Appropriation Account. (Consumption Account), Capital Finance Account, (Accumulation Account) and External Transactions Account (Rest of the World Account). Importantly, all the four accounts are being prepared as per the guidelines provided by the United Nations (1968) and are expressed in terms of current prices. Evidently, the stated accounts relate to the annual performance (flows) of the Indian economy for a particular year.

The first major step towards reporting on national wealth in India was taken by an authoritative body only in the year 1963 when Reserve Bank of India (RBI) collected and compiled data on the estimates of tangible wealth in India for the year 1960-61. However, it was only in the year 1988 that the estimates of capital stock (a part of the national wealth) as on March 31, 1981 were reported officially for the first time by the CSO (an organ of the Government of India). Since 1990 CSO is reporting regularly on the estimates of the capital stock through its publication entitled National Accounts Statistics (NAS). Notably, CSO is compiling these statistics by using a method recommended by the United States Statistical Office (UNSO), namely the perpetual inventory method (PIM), with 1980-81 as the bench-mark year. To sum, preparation of wealth (stock) accounts have a relatively shorter history in the Indian context. Consequently, accounting for national wealth in India is, not unexpectedly, anything but perfect.

3. Performance

It follows from the above that the major focus of national accounting system followed by the CSO in India has been on measuring and communicating information on economic performance or standard of living of the Indian nationals. An important performance measure computed by CSO in this regard is the annual 'Gross Domestic Product' (GDP), besides a host of other allied measures. Importantly, GDP and its derivative, namely, per capita GDP, enjoy world-side reputation as indicators of 'standard of living' of a country. In India, under the prevalent accounting practices, GDP is being measured and reported in terms of two different amounts viz., 'GDP at current prices (nominal GDP)' and 'GDP at constant prices (real GDP)' (with 1980-81 as the base year). Albeit, in the consolidated accounts of the nation, the reconciliation and balancing of four accounts is done only with respect to GDP at current prices. Amongst the other independent statistics reported, GDP is stated at both 'market prices' and 'factor cost'. Also, the aforesaid measures are adjusted to arrive at the amounts of Gross National Product (GNP). Further, the foregoing measures are reported on a net basis, that is net of 'consumption of fixed capital (CFC)'. Incidentally, in order to analyze inter-temporal 'economic well-being' of nationals and to facilitate inter-country comparisons of standard of living, Gross National Product (GNP) and Net National Product (NNP) on a per capita basis at factor cost (both at current prices and constant prices) are used. On a per capita basis, the standard view is that the higher is the GNP or NNP of a country, the better off are its inhabitants. Admittedly, GDP and allied measures are amongst the most popular and better known indicators of the national economic growth (well-being) in all the countries of the world.

A critical examination of the GDP as a measure of economic performance reveals the following in its favour. First, it is based on, by now a standardized set of data and procedures. Hence, GDP is a well-recognized and, therefore, useful indicator of economic performance for users at both national and international levels. Second, simplicity of the measure is its major advantage. That is, the measure is easy to interpretation by both the general public and the politicians in an otherwise wooly world. Third, it is a guiding signal in international flows of capital. In other words, destinations of the international flows of investments are guided, partly, by the relative levels of GDP in different host countries. Last, it is a crude indicator of the human achievement and development. However, the measure under probe suffers from the following limitations. First, it tells very little about the general well-being of the citizens in a country. This is so because distribution of income in a country is not known just by looking at the levels of GDP on an aggregate or on a per capita basis. Second, flowing from the first limitation, average or per capita income is an unsatisfactory measure of the levels of poverty and social degradation in a country. In fact, it is possible for a country to have a very high level of per capita income with distribution skewed heavily in favour of a few, thus implying a high level and wide spread of poverty. Third, from the point of view of the international capital flows, simple macro-economic statistics like GDP, in general, obscure the effect which economic volatility will have for different sectors and sub-sectors of the economy, that is effects at the micro-economic level. Appropriately, therefore, the trans-boundary investment decisions are not taken with levels of GDP as the primary input. Instead, figures of GDP are generally used as a support to investment decisions already taken. Fourth, aggregate statistics are prone to a great degree of manipulation by the users (see Butler, 1995). Last, in view of the growing popularity and importance of the 'human achievement' and 'human development' as desirable economic ends, GDP is at best an inadequate indicator of the level of 'human progress' over time (see UNDP, 1990). In the above background, some suggestions have been made to re-engineer the existing structure and processes of measuring national economic performance. It is felt that implementation of the suggestions made shall make the National Accounts more meaningful and useful.

(i) *Re-defining Real GDP Valuation* : A new dimension to the accounting for real GDP has been added recently vide a decision taken by the Department of Commerce in the U.S.A. According to the decision taken, effective December 1995, the Department of Commerce shall be introducing a new measure of inflation-adjusted gross domestic product (real GDP) that uses a chain-type annual weighted index. This is against the currently popular practice of reporting real GDP by using fixed-weights. In fact, a general problem with the existing fixed-weights measure is that it gives improper treatment to some goods and services in the calculation

of the 'real GDP'. Specifically, the problem relates to those goods and services that witness an abnormal growth in output since the selected base year. To elaborate, often the quantity of goods and services that increase the most over years are those whose prices either decline or else increase, relatively, the least. An illustrative example of such a situation is given below using quantity and price data from the United States on two different items for three different years. The two items are 'a computer of a certain computational power' and 'a new single family home'. In the context of the United States, approximate data on prices of the two items are reproduced in Table-1.

Table 1

Unit Price Data on Selected Items in the United States

Year (1)	Computer (2)	House (3)	% of (2) to (3) (4)
1977	$ 800,000	$ 43,000	1860.47
1987	80,000	102,000	78.43
1995	30,000	120,000	24.00

Resource : Economic News from the United States (July/August, 1995).

As is widely known, demand of the first item, namely computers, has increased abnormally during the periods illustrated in Table-1 in virtually all the countries of the world including the United States. But equally true is the fact that prices of computers per unit of computing power have come down drastically over the period under examination. On the other hand, for the second item, that is an average new single-family house, whereas cost of construction has gone up appreciably, the increase in the demand has been rather modest in the United States. Owing to movements in relative demand and relative prices as stated above, it has been proved that the currently popular measure of real GDP using 'fixed-weights' produces biased results. More serious, however, is the fact that a measure of 'real GDP' using 'fixed-weights' understates an economic expansion before the base year (currently 1987 in the United States) and overstates it afterwards. These 'weighing effects', moreover, are stated to be more pronounced as the gap between the valuation period and the base year increases. In view of the above facts, it is proposed that in order to measure real GDP, chain-type annual weighted index should be introduced by the CSO in India.

(ii) *Non-Monetary Economy* : Since GDP is a price-weighted sum of quantities of different goods and services, it has failed to incorporate the value of household and 'non-monetized' production. But in many a

developing economies, including India, a significant proportion of production achieved in some of the sectors, particularly agriculture, occurs in non-monetary terms. For instance, 63 percent of agricultural labour in Africa is provided by women. However, such a large contribution of the women labour force is almost ignored in the accounts prepared in these developing economies. This is so because the current system of national accounting ignores unpaid work, domestic or otherwise. Of course, in the event of exclusion of this production, computed estimates of GDP are biased downward for countries with sizable non-monetary economies. Thus, it is only appropriate to include an imputed value on 'household' and 'non-monetized' production to reflect correctly the economic performance of the countries concerned. In India also, an appropriate action on this front by the CSO is required to better reflect the annual performance of the Indian economy.

(ii) *Spending Power* : 'Purchasing power parity theory' proposes that if local prices are taken into account, more meaningful and sustainable inter-country comparisons on the relative economic performance could be made. This follows from the fact that a unit of a currency could buy different quantity of products in different countries. Many a times, results on inter-country comparisons of the standard of living when expressed in terms of the spending power can be quite revealing. For example, China is 8 times bigger in the world economy in terms of purchasing power of its currency than its per capita income. Similarly, India is 4 times bigger in terms of purchasing power of its currency than its per capita income (see Butler, 1995). In short, to make international comparisons of economies more meaningful, computation and reporting through national accounts on per capita purchasing power in different countries is highly desirable. Curiously, however, unlike GDP, spending power of countries is currently not a widely reported indicator of the national economic performance. It is only appropriate to state here that adoption and additional reporting of a spending power based performance measure by the CSO in NAS would make reporting on economic performance more meaningful in a global context.

(iv) *Human Development Index* : Beginning 1960s, per capita GDP has been subjected to a detailed scrutiny as an appropriate indicator of the well-being of people. A general conclusion of this scrutiny is that GDP is not an adequate measure of the economic well-being or human development of the citizens, particularly on an inter-country basis. As a solution, therefore, a new indicator termed Human Development, Index (HDI) has been devised lately by the United Nations Development Program (UNDP). Since1990, UNDP has used computed values of this index, first to make inter-country comparisons on human development and, second, to analyze intra-country human progress over time. Notably, a novel

feature of the HDI is that besides adjusting for the purchasing power of the money income, the measure also gives due weightage to such variables as human life expectancy and educational attainment of a nation. Though far from being perfect, HDI is definitely a better indicator of the quality of life obtaining in a particular country. It is, therefore, proposed that besides income adjusted for the purchasing power (in an international context), sufficient details on life expectancy, educational attainment, and HDI should form a part of the NAS being published by the CSO in India. For the sake of record, it may be stated that a beginning in this direction has been made in India in 1995 with the maiden reporting on Human Development Information by the State Government of Madhya Pradesh.

(v) *Gender Disparities* : Of late, an issue that has gained currency is the relative economic well-being of males and females in a country (see UNDP, 1995). It has been inferred by UNDP that national average of economic performance may conceal distressingly large gender disparities. It has been, therefore, suggested that state of human condition needs to be brought out clearly and separately for men and women. In this backdrop, it is considered desirable that annual performance on such parametric values as life expectancy, educational attainment and per capita income should be reported separately for males and females by the CSO in India. This would surely help in a proper analysis and control of gender disparities.

(vi) *Physical Environment* : The present system of accounting for economic performance is biased against the environmental protection and conservation for the following reasons. First, whereas value of outputs obtained through an exploitation of natural environment (forests, mineral reserves etc.) is added in the computation of the national income, the economic costs of these output are ignored. The prime cause for such a mismatching is the lack of accounting for natural resources as a part of national wealth. Second, expenditure incurred on controlling natural calamities causing extensive damage to physical environment (natural and man-made) like floods, forest fires etc., paradoxically, boosts up the GDP. Logically, current amount of GDP should be offset with an amount representing lost potential of the economy in reaping future benefits from the environment damaged and destroyed. Hence, it is felt that till the time a natural resources balance sheet is drawn up environmental costs and losses should, at least, be segregated and shown separately in the consolidated accounts of India. This, however, is in no way a substitute for the distinct and ultimate recognition of (i) natural resources as a part of national wealth, and (ii) quantity of various physical environmental resources consumed, wasted and regenerated in a particular year as a part of national economic performance.

4. Status

From the point of view of an economy, economic resources are classified into four major categories, namely, land, capital, labour and entrepreneurship. The aggregate value of these resources at a particular point in time reflects the value of future benefits embodied therein or the national wealth. Incidentally, whereas the first two resources (land and capital) are physical (non-human) in nature, the other two are human resources. Worldwide, till date, the methods of computing wealth at a national level have laid a great emphasis on valuing non-human assets only. However, it is necessary that, as a part of the national wealth, a value is put on the human resources and that this value is incorporated in a national balance sheet. Further, in an ideal national balance sheet, the value of the national resources, both non-human and human, should be offset with the amounts of national liabilities and national net worth.

So far as information on 'status' variables like national liabilities and national wealth is concerned, such information is not being provided by the CSO in India through a national balance sheet. However, details on the capital stock, with fixed assets and stocks as constituent parts, are being provided regularly by way of a statement in the NAS, effective 1990. In fact, the first step towards reporting on national wealth was officially taken by the CSO only in the year 1988. It was in this year that the estimates of capital stock (a part of the national wealth) as on March 31, 1981 were reported for the first time by using the perpetual inventory method (PIM), a method recommended by the United States Statistical Office (UNSO) (1979). In short, reporting on the items of national wealth is of a recent origin in India. In the following paragraphs, a critical examination of the current reporting practices so far as they relate to national wealth of India has been attempted. In the discussion, reliability of the current capital stock estimates as a measure of national wealth is the focus of analysis. Some suggestions have been made in the section in order to make information on Indian national wealth complete and more relevant.

(i) *Non-Human Resources* : According to UNSO (1977), national wealth is a total of various kinds of net tangible and intangible non-financial assets of residents plus financial claims on non-residents less financial liabilities to non-residents. Evidently, a serious deficiency of the current Indian estimates made on capital stock is that non-human productive capabilities of the economy is being grossly understated. Indian estimates of capital stock include only 'reproducible tangible assets' with two major component parts being fixed assets and stocks. That is, such important "non-reproducible tangible assets' as land, timber tracts and forests, sub-soil assets and extraction sites, and fisheries are being excluded completely by the CSO in its estimation of the Indian national wealth.

Ironically, Reserve Bank of India (RBI), another authoritative body, in its studies, has been including value of land (but not forests) as a part of its estimation of national wealth since early 1960's (see RBI, 1963). It, therefore, seems that there is hardly any justification for the CSO in not compiling and reporting estimates of 'non-reproducible tangible assets' through the NAS. In fact, a simple comparison of the definitions adopted by the CSO and the UNSO reveals that the current CSO estimates of national wealth are far removed from the ones conceptualized by UNSO (1977). In brief, CSO has a long way to go before it can claim to be supplying information on the 'true' estimates of national wealth (non-human). In any case, a 'true and fair' national balance sheet can be drawn-up only subsequent to the estimation of the magnitude of national wealth, both human and non-human.

(ii) *Natural Resources* : As of new, national wealth (non-human), as defined by the CSO (1988), excludes natural resources from its ambit. Hence, it is desirable that a natural resources balance sheet or a statement should be prepared so that proper accounting of the depletion, wastage and loss of these resources could be achieved. This is particularly important because many of the natural resources are non-replenishable in nature. And, in the absence of an accounting for them, there is a high chance of their being used carelessly. To begin, taking UNDP as the model, information on such variables as land area, population density, arable land, forest areas, irrigated land, per capita internal renewable water resources, and annual fresh water withdrawals should be supplied annually through a statement. Eventually, however, this information should be valued and it should form an integral part of the national wealth and national balance sheet.

(iii) *Conventional National Balance Sheet* : Conventionally, in a balance sheet, assets represent various non-human resources. Further, these assets are offset with the liabilities and net worth. For constructing this balance sheet for the Indian economy at present insufficient information is being compiled and reported by the CSO. In fact, annual values of capital stock (a sub-set of national assets) are being reported as an independent item in the NAS with no offsetting national liabilities and net worth (the way it ought to be). It is proposed here that, as a first step, CSO should start collecting and disclosing publicly complete information on the national wealth (non-human), national liabilities and national net worth. For this purpose, the model structure and format of the national balance sheet designed by the United Nations (1968) can be adopted, adapted and implemented by the CSO.

(iv) *Human Resources* : After being razed to ground, the economic transformation of Japan and Germany after the World War II can be attributed largely to the quality of their human resources. It is indeed

tragic that a conventional balance sheet does not account for human resources as an asset. In recent years, however, there has been an awakening that humans are arguably the most precious asset both at an enterprise level and at the national level. As indication for the same comes from the fact that even for the micro or enterprise accounting there has been a proliferation of models to measure and report on the value of human resources. That is, human resource are now at the centre-stage of development, both as an indispensable resources (means) and as a target of development (ends). In India, so far as current reporting on human resources at the national level is concerned, only scattered information on some measures is being provided in a variety of publications of the Government of India. It is proposed here that, as a first step, CSO could start consolidating and reporting this scattered information through the NAS. Thereafter, an addition to this list of measures could be made by referring to the measures on human resources development being reported by the UNDP through its annual publication 'Human Development Report'. It may be mentioned here that valuation of human resources at the national level is a challenge to which a final answer has yet to come from the accountants. But till the time an acceptable valuation model takes a definite shape, CSO should at least compile and provide adequate raw data on various facets of human progress over time.

5. General Accounting Issues

(i) *Reliability* : In order to be useful in economic decision-making, one of the important qualities of accounting information is its reliability. Given the enormity of task involved in collection and compilation of data, the information on economic aggregates is not expected to be free from tolerable levels of statistical discrepancies and errors and omissions. But, commonsense suggests that as time passes and values of the economic aggregates are revised (a feature of national accounting) the size of discrepancy should approach zero in an efficient accounting system. In other words, if a statistical discrepancy is observed in accounting for a particular economic aggregate in an accounting period "t", the size of this discrepancy in subsequent time periods ('t+1', 't+2', etc.) should show a tendency to approach zero. That is, estimates on economic magnitudes should become more and more reliable with time. Contrary to this, however, in India, the size of observed statistical discrepancy in measurement of economic magnitudes has indicated a behaviour unexpected of an efficient accounting system. This is illustrated below with the help of data on the amount of statistical discrepancy reported for Gross Domestic Product (GDP) and Gross Domestic Capital Formation (GDCF) for the year 1988-89. Notably, data on GDP and GDCF along with the size of statistical discrepancy are reported in the NAS for the

years 1991 (when data for 1988-89 are reported first) through 1995. The relevant data is being re-produced in Table–2.

Table-2 shows that as against the desired position of statistical discrepancy approaching zero with time, actual size of discrepancy for two selected variables–GDP and GDCF–has shown a behaviour far removed from that expected. In fact, magnitude of the discrepancy for both the variables has shown an oscillating behaviour with time, that is a negative discrepancy becoming positive and then again turning negative. Though, logically, in an efficient system, a negative amount of discrepancy should only show a positive change in subsequent time periods with a tendency to approach zero and vice-versa. Thus, there is a pressing need to reform the current national accounting system in India to improve reliability of economic magnitudes.

Table 2

Time-behaviour of Statistical Discrepancies for 1988-89.

National Accounts Statistics (1)	Discrepancy in GNP (Rs.) (2)	Change over Previous Year (Rs.) (3)	Discrepancy in GDCF (Rs.) (4)	Change over Previous Year (Rs.) (5)
1991	–621		65	
1992	670	1291	1254	1189
1993	–3388	–4058	–2359	–3613
1994	–4202	–814	–1872	487
1995	–97	4105	525	2397

Source : National Accounts Statistics, 1991 to 1995.

(ii) *Accrual :* A significant part of the annual DGP is attributable to transactions entered into by the Central and State Governments. For instance, during 1994-95, Government expenditure on final consumption was nearly one-sixth of the total domestic consumption expenditure in India. However, revenues and expenditure of the Government are accounted for by using cash basis of accounting in almost all the countries of the world. As is widely known, *inter alia,* a serious deficiency of the cash basis of accounting is its inappropriateness in providing comparable information on an inter-period basis. Hence, in recent years, it has been proposed in the literature that Government accounts, like business accounts, should also be prepared by using accrual basis of accounting. Notably, in this direction, some guidelines have already been provided through the International Federation of Accountants (see IFAC, 1991). It is felt that adoption of accrual accounting by the Government of India

shall provide more meaningful comparisons of the inter-period Governmental and economic performance of the country.

(iii) *Prior-period Adjustments* : Unlike micro-accounting, prior period adjustments to economic magnitudes are made in the national accounting to the data of the year for which the said adjustment is relevant. Consequently, therefore, any revision in the value of an economic magnitude for, say, the bench mark year calls for an immediate reporting of its 'size effects' for all succeeding time periods, particularly when the concerned item is expressed at current prices. However, it is observed from the past publications of the NAS that CSO has not met this norm adequately, at least, on reporting the size of the net capital stock. To illustrate, net capital stock estimated by the CSO in 1988 for the bench-mark year 1980-81 was Rs. 338.093 crores. In NAS of 1995, this estimate for the bench-mark year has been revised upward to Rs. 338.104 crores. However, in the same issue of NAS, details on the effect of this change on the net capital stock have not been clearly supplied for the years 1981- 81 to 1985-86. Obviously, the primary reason for this omission is the absence of information given for the said years in NAS-1995. Significantly upward revision by Rs. 9 crores in the capital stock for 1980-81, apparently an immaterial account, has meant that for the year 1987-88 (seven years later) the difference between the amount of net capital stock (at current prices) as reported in the NAS-1995 is as high as Rs. 3,062 crores (more than 340 times of change made in the figure for 1980-81 or an annual compound rate of growth of 130.19 percent). But such details are neither deducible nor supplied explicitly for the years 1981-82 to 1985-86. An important implication of these findings is that effects of any prior-period changes made in the values of an item, should be promptly and transparently reported for all the subsequent years. This alone can ensure a high degree of accuracy, transparency and consistency expected from data published for various years by the Governmental bodies.

6. Conclusions

Annual accounting for national economy is a subject area which is witnessing a silent revolution in the past few decades. In this period, not only a fresh look has been given to the objectives of national accounting but several changes in the methods of measurement and reporting of accounting information have also been devised and introduced.

In this research study, a modest attempt has been made to outline some serious deficiencies in the existing Indian national accounting system. In the light of the deficiencies noticed, as also based on the global accounting practices, the major conclusion of the study is that the present national accounting system in India is due for a thorough overhauling. Specifically, the study has recommended re-engineering of

the system under three different heads – performance, status, and overall accounting system. It is felt that the proposed changes in the national accounting shall serve at least two purposes. On the one hand, these changes would bring the existing system to the level of state-of-the-art, on the other hand, primary objective of the national accounting, that is evaluating well-being of the people, shall be better served.

References

Butler, Daniel, "Lies, Damned Lies and Economics", *Accountancy,* July 1995, 56-57.

Central Statistical Organisation (CSO), *Estimates of Capital Stock of Indian Economy,* Government of India, New Delhi, 1988.

Central Statistical Organisation (CSO), *National Accounts Statistics., (Annual) Government of India, New Delhi, various Issues.*

Government of India, *Economic Survey* (Annual), Ministry of Finance, New Delhi, various Issues.

International Federation of Accountants (KFAC), *Study-1 Financial Reporting by National Governments,* IFAC, New York, March 1991.

Joshi, M.S., *The National Balance Sheet of India,* University of Bombay, Bombay 1966.

Mukherjee, M. and Sastry, N.S.R., "An Estimate of the Tangible Wealth in India", in *Review of Income and Wealth, Series VIII, Rowes and Rowes, London, 1959.*

Rangarajan, C. and Dholakia, B.H., *Principles of Macroeconomics*, Tata-McGraw Hill Publishing Co., New Delhi, 1986.

Reserve Bank of India, "Estimates of Tangible Wealth of "India", *RBI Bulletin,* January 1963, pp. 8-19.

Reserve Bank of India, All India Rural Debt and Investment Survey, 1961-62, *RBI Bulletin,* June 1985, pp.807-866.

Reserve Bank of India, "Estimates of Tangible Wealth of India", *RBI Bulletin,* October 1972, pp. 1718-1748.

United Nations, *A System of National Accounts,* United Nations, New York, 1968.

United Nations Development Program (UNDP), *Humen Development Report* (Annual), Oxford University Press, New Delhi, various Issues.

United Nations Statistical Office (UNSO), *Provisional International Guidelines on the National and Sectoral Balance Sheets and Reconciliation Accounts of the System of National Accounts,* United Nations, New York, 1977.

United Nations Statistical Office (UNSO), *Guidelines on Statistics of Tangible Assets,* United Nations, New York, 1979.

United States Information Service (USIS), *Economic News from the United States,* various Issues.

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AUDIT QUALITY ATTRIBUTES AND AUDITOR CHANGES : A SYNTHESIS OF THEORY AND EMPIRICAL EVIDENCE

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The purpose of this paper is to review research into the audit quality and audit switching. The paper also reviewed the empirical tests of audit quality, audit credibility, knowledge spillover and auditor-auditee bonding theories. The empirical tests reveal that there is an association between agency conflicts and audit quality.

INTRODUCTION

The external auditing profession has been buffeted by a number of events over the past 15 years that have been heightened competition among different firms (Cowan 1990). During this time period, the American Institute of Certified Public Accountants (AICPA) has modified its prohibitions against advertising and against solicitation of clients (AICPA 1979). The large number of mergers among client companies during the 1980s served to diminish the pool of companies in need of audit services (Palmer 1989). The recession of 1981-82, increased global competition, and the current economic downturn are additional forces that make clients more sensitive to the relationship between audit services and audit fees (Cowan 1990).

As competition within the profession has grown, auditing firms have become more cognizant of the need to market their services (Bernstein 1978; Kotler and Bloom 1984; Congram and Dumestic 1986). In attempting to compete on other than a price basis, auditing firms seek to differentiate their services (Bernstein 1978). It is often difficult for firms to do so, for at least two reasons : (1) Unlike goods, services cannot be experienced in advance, and (2) even after the service is provided, the purchaser often does not have the technical expertise to evaluate the quality of the

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service provided (Bloom 1984). The purchaser may focus more on the process of rendering the service rather than on the output of the service itself (Parasuraman, Zeithaml, and Berry 1985). One of the dimensions on which firms have attempted to differentiate themselves is the quality of services provided. Auditors often believe that they know the criteria used by clients (*i.e.*, both client management and third-party users of their reports) in evaluation audit quality. However, Bishea (1982) found that auditors do not accurately perceive the expectations and needs expressed by clients.

In 1976, the U.S. Senate Subcommittee on Reports, Accounting, and Management (Metcalf Committee) provided data indicating that the eight largest auditing firms in the country (the "Big Eight" which are now called the "Big Six") are overwhelmingly the major suppliers of audit services to the largest corporations in the United States. The Subcommittee concluded from these data that monopolistic practices by the Big Eight have led to a two-tier structure in the audit industry. One tier consisting of the eight largest auditors and second tier consisting of all other auditors, with the Big Eight dominating industry (Nichols and Smith 1983). In the light of these findings, the committee suggested that more activist regulation of the audit industry was needed by the Securities and Exchange Commission (SEC).

Dopuch and Simunic [D-S](1980) examined a wide variety of evidence that might tend to support or refute allegations of a lack of competition in the auditing profession. They [D-S] concluded that the industry was competitive, and in a subsequent paper (1982) they argued that many of the apparent monopolistic characteristics of the industry could be explained by a product-differentiation hypothesis.

More specifically, they hypothesized that different auditing firms provide auditing services which are perceived by investors to be different in quality, and in particular, that the Big Eight auditors are perceived as being more credible than non-Big Eight auditors. If this is the case, the Big Eight firms would be viewed as providing a better product (greater credibility), which could explain their dominance of the audit industry (Shockley and Holt 1983).

The remainder of the paper is organized as follows. Second section presents the theoretical framework of audit quality and audit switching literature. A description of hypotheses looked at by the prior literature along with empirical findings are the focus of third section. Fourth section concludes the paper and provides suggestions for future audit quality and audit switching research.

THEORETICAL FRAMEWORK

Demand for Audit Quality

Numerous studies have addressed audit quality. Archival studies have focused on differences among individual firms or classes of firms (e.g., large versus small). Some behavioural studies have also related audit quality attributes in a similar fashion. Other behavioural studies have elicited the attributes of audit quality from auditors, and one from chairpersons of audit committees. However, in an increasingly competitive environment, it seems important to understand the perceptions of both users and preparers as they relate to audit quality. Any differences may allow for audit firms to deliver more satisfaction to both groups and simultaneously improve own audit quality.

Researchers have posited that auditors specialize in the level of audit "quality" provided to clients. "Quality" is defined as the probability that the auditor will both detect and report material breaches in the accounting systems. The four factors as reported by Carcello, Hermanson, and McGrath (1992) to be most important in determining audit quality were audit team and firm experience with client, industry expertise (especially within the audit team), responsiveness to client needs, and compliance with the general standards (compliance, independence, and due care) of Generally Accepted Auditing Standards (GAAS). Differing quality levels are demanded by clients based upon how closely management's incentives align with those of the company's owners. The disparity between management and owner incentives results in agency conflicts. The extent of these agency conflicts determines the degree of auditing needed to make management credible to current and potential investors. Specially, the higher (lower) the extent of agency conflicts, the higher (lower) the demand for audit quality (DeFond 1992).

Jensen and Meckling (1976) demonstrate that managers will voluntarily increase the observability of their actions by hiring independent auditors to monitor their behaviour. It may be argued that external auditing is not necessarily the best response to this demand for monitoring. However, if it is assumed that the production of total monitoring is met by a combination of two factors, (1) internal controls (including internal auditing) and (2) external auditing, and that these are both normal goods, then under relatively mild assumptions as the production of monitoring increases, the demand for external auditing will at least not decrease.

DeAngelo (1981a, 1981b) develops a demand and supply rationale for what she terms "audit quality". Using the work of Watts and Zimmerman (1980), she defines audit quality as the probability that an auditor will both (1) discover a breach in the accounting system, and (2) report the breach. Quality then captures the attribute of audit service that helps alleviate the agency conflicts between the manager and equity holders.

DeAngelo argues that auditors will specialize in supplying varying levels of quality, which means that if a firm wishes to change audit quality it must also change auditors. DeAngelo asserts that firm size is an effective surrogate for audit quality because it proxies for the magnitude of the audit firm's client-specific quasi-rents. Quasi-rents equal the excess of audit fees over the avoidable costs of performing the audit. Thus, the market for audits should be characterized by product differentiation. From the observed two-tier industry structure, D-S infer that Big Eight firms are more credible than non-Big Eight auditors. If product differentiation exists, then *ceteris paribus*, auditor changes between these two classes audit firms should be associated with changes in the market valuation of the client firm.

Audit Credibility

Based on the suggestion of Jensen and Meckling (1976), D-S (1982) sketch a model of the demand for auditing when there is an asymmetry of information between management and investors about the honesty of management. In this setting, attestation by a credible auditor may serve one of the following two functions :

1. Signal management's honesty to investors.
2. Restrict the ability of a less than scrupulously honest management to conceal, though misrepresentation in financial statements, the consequences of activities not in the best interests of shareholders. While their model differs from DeAngelo's, the implications are similar. That is, both "quality" and "credibility" refer to the characteristic of auditing that reduces the agency conflict between managers and equity holders.

Simunic and Stein (1987) discuss the motives for auditing firms to specialize in providing a specific credibility level. They argue that audit firms choose to specialize in specific-credibility levels based on a desire for monopoly rents. Initially, auditors choose credibility levels where they perceive a demand but no supply. Hypothesizing that there are large fixed costs to establishing a name-brand reputation at a given credibility level, Simunic and Stein argue that once established, the auditor finds it costly to change credibility levels. Simunic and Stein further maintain that specific audit firms may not provide multiple levels of credibility due to the inflexibility inherent in an organization that specializes. If the organization is "geared up" to provide a specific credibility level, then it is not likely to be cost effective in competing with suppliers who specialize at other levels.

Knowledge Spillovers and Auditor-Auditee Bonding

Considerable controversy has surrounded auditors' provision of Management Advisory Service (MAS) to their audit clients (thereafter,

auditee). The major focal point of controversy has been the effect of MAS on the public accountancy profession's independence. Beck, Frecka, Solomon (1988) presented evidence regarding the incentive effects of MAS on the issue of auditor independence. The analytical evidence extends extant research (DeAngelo 1981a: Simunic 1984, and Palmrose 1986) by identifying conditions under which MAS involvement strengthens the economic bonds between the auditor and auditee. In particular, knowledge spillovers from recurring MAS are shown to diminish the present value of rents, thereby reducing the level of incremental auditor-auditee bonding that otherwise would exist on recurring engagements. To the extent that such knowledge spillovers occur, the total cost of performing both MAS and audit services jointly would be less than the sum of the costs that would be borne by firms which separately performed the services (Simunic 1984). Since cost-saving measures could not be implemented by competitors without jeopardizing the existing quality level, a joint supplier of MAS and audit services would enjoy a cost advantage. Therefore, irrespective of changes in audit quality, knowledge spillovers will permit joint suppliers to provide their services at a lower overall cost. However, knowledge spillovers on nonrecurring engagements are shown to increase bonding.

An economic bond develops when two parties with an ongoing relationship are economically better off continuing the relationship than dissolving the relationship. When applied to the audit setting, increases in the economic bonds between the auditor and auditee will decrease the likelihood of an auditor change (DeBerg, Kaplan, and Pany 1991). DeAngelo (1981a) has modeled firms' intertemporal audit pricing policies in an environment in which audit start-up costs, in combination with auditee related costs of changing auditors, protect the incumbent auditor from displacement. Under these conditions an incumbent auditor can earn future quasi-rents from the engagement, even when there is competition. Further, the quasi-rent stream creates an economic bond between the auditor and auditee since there are incentives for both parties to continue the relationship. Based upon DeAngelo's (1981a) analysis, it is apparent that economic bonding depends upon the present value of the auditor's future profit from the engagement. In particular, auditees will balance the present value of audit and MAS fees savings against the cost of switching auditors and MAS suppliers. Recognizing the auditee's decision rule, an incumbent auditor will attempt to prevent displacement by setting the present value of audit and MAS fees for the second and subsequent periods sufficiently low to discourage potential competitors.

Modeling the joint markets for MAS and auditing services requires numerous assumptions about the nature of the services being provided and attendant costs. One assumption involves the role of competition. In the absence of competition, it is apparent that the monopolist auditor would have the opportunity to extract rents (Simunic 1984). As

auditor-auditee economic bonding would be inevitable within such an environment, Beck, Frecka, and Solomon (1988) developed their model within the context of a competitive market.

HYPOTHESES

Previous studies (Palmrose 1984; Simunic and Stein 1987; Healy and Lys 1986 ; Eichenseher and Shield 1989; Francis and Wilson 1988; Johnson and Lys 1990) have looked at the association between agency conflicts and audit quality. Methodologically, all of these papers except Francis and Wilson (1988) have attempted to relate audit quality level with the level of agency conflicts measured at a point in time.

Surrogates for Audit Quality

Continuous Auditor Size

Francis and Wilson (1988) and John and Lys (1990) used the ratio of the sales of the clients of the new and old auditor to proxy for the change in audit firm size. Size based upon client sales is a good quality surrogate to the extent that client sales revenues are correlated with quasi-rents.

Name-Brand Reputation

All prior studies used membership in the Big Eight (now Big Six) to characterize name-brand reputation. Simunic and Stein (1987), however, excluded from their tests another commonly recognized group of auditors known as "second tier" firms.

Expertise

Shockley and Holt (1983) found that bank loan officers appear to use industry expertise (as measured by market share) to assess audit firm credibility. Audit firms with expertise may provide greater assurance that financial statements breaches will be detected because the audit firm has a disproportionate amount of reputation at stake in the industry in which it specializes (DeFond 1992). Audit firms with industry expertise may also provide lower cost audits, at the margin, than non-experts due to efficiencies that are gained from specialized knowledge in the industry. However, acquiring and maintaining expertise is costly and, therefore, audit firms may demand a return on their expertise which equals or exceeds the savings from more efficient auditing. Simunic and Stein (1990) demonstrate that a cost of industry concentration is less diversified in the auditor's portfolio of clients, which increases audit risk at the portfolio level. They point out that this may explain why no individual audit firms services 100 percent of an industry.

Independence

The characteristic that is traditionally held to be the strongest indicator of the audit firm's willingness to report a breach is the auditor's perceived independence (Mautz and Sharaf 1961). The argument is that the larger is a specific client firm's fees are in relation to the total fees earned by the audit firm, the less willing the audit firm will be to disclose a breach for fear of losing the client.

Agency Conflict

Agency theory posits an inherent moral hazard problem in the principal-agent (owner-manager) relations that gives rise to the agency costs. The agency theory literature identifies two aspects of the agency relationship that, in combination, create the agency problem : (1) the divergence in preferences of the manager and owner with respect to the manager's actions, and (2) the imperfect observability of the manager's actions by the owners. When the divergence in preferences increases or the observability of manager's actions decreases, residual loss increases. Audited financial statements are widely viewed as a means of mitigating agency costs, the arguments linking auditing with reduced agency costs are informal and rely on the fact that auditing has survived in a competitive setting and presumably is cost effective (Dopuch and Simunic 1982 ; Dopuch 1984). Jensen and Meckling (1976) identify two classes of agency conflict, owner-manager and owner-debtholder, and these two classes are the basis for the agency cost proxies.

Owner-Manager Conflict

If there are no debt contracts, the agency problem reduces to the moral hazard between managers and owners (Jensen and Meckling 1976). Jensen and Meckling (1976) argue that this basic agency problem can be mitigated by making managers owners of the firm. In the absence of manager ownership, the moral hazard problem leads owners to discount the value of their initial investments and lower management compensation. It follows from this argument that firms with higher levels of manager ownership would have less need for higher-quality audits than would firms with lower levels of manager ownership assuming a "convergence of interests" as manager ownership increases (Francis and Wilson 1988).

Another means of reducing agency costs is the use of incentive performance contracts for managers. While incentive contracting may improve managerial performance compared with pure wage contracts, the use of incentive compensation contracts also results in additional monitoring costs. Enforcement of the contract requires monitoring of management's activities and it is hypothesized by Jensen and Meckling that this is a role of auditing. Firms having accounting based incentive performance (bonus) plans are hypothesized to be more likely to use a higher-quality auditor than firms without such plans.

Owner-Debtholder Conflict

Agency theory posits that debtholders are concerned about possible wealth transfer to stockholders (Smith and Warner 1979). Managers have the opportunities to transfer wealth from debtholders by taking various actions (Jensen and Meckling 1976). Debt agreements commonly include covenants based on accounting information which limit these wealth transfers, thereby reducing the residual loss. Auditing increases the reliability of accounting information used to verify covenant compliance. As the amount of debt increases, the potential amount of the wealth transfer increases, resulting in a greater incentive to transfer wealth away from debtholders and a greater demand for monitoring. Thus, it has been hypothesized that the client firms tend to switch to higher (lower) quality audit firms in anticipation of, or as a result of, increases (decreases) in leverage (Eichenseher and Shields 1986; Palmrose 1984; and Simunic and Stein 1987). However, Healy and Lys (1986) and Johnson and Lys (1990) draw a distinction between existing debtholders at the time of an auditor change, and incentives with respect to future debt issues after an auditor change. If a firm switches to a lower-quality auditor, the value of existing debt claims is expected to drop, thus, increasing the value of stockholders' residual claims. Based on this reasoning Francis and Wilson (1988) hypothesized that firms with higher debt levels are more likely to switch to a lower-quality auditor.

Accruals

Compensation schemes attempt to reward managers on their marginal product. Since marginal product is not perfectly observable, compensation is usually based upon some variable that is expected to be correlated with marginal product. A frequently used variable is accounting income. Even when compensation is not explicitly based upon income it is expected to be an implicit factor in determining annual raises and the manager's worth in the labour market (DeFond 1992).

The determination of income necessarily involves judgement and discretion, which gives the manager an opportunity to manipulate income. Healy (1985) suggests that short-term accruals (accounts receivable, accounts payable, and inventory) are income determinants vulnerable to manage manipulation. The susceptibility of these accounts to misstatement also is evidenced by the relatively large amount of time devoted to these accounts in that audit process. Therefore, the relatively larger these accounts, the greater the vulnerability to manipulation and the greater the demand for monitoring. Thus, it has been hypothesized that client firms tend to switch to higher (lower) quality audit firms in anticipation of,

or as a result of, increases (decreases) in the relative size of short-term accruals (DeFond 1992).

SUMMARY

DeAngelo (1981) and Dopuch and Simunic (1982) each presented arguments that large auditing firms may be perceived as providing audits of higher quality than small firms. Dopuch and Simunic (1980) presented this as a possible explanation for the Big Eight domination of the audit industry. Francis and Wilson (1988) examined the possible linkage between agency costs and demand for quality-differentiated audits. Their tests provided support for the hypothesized association between agency cost proxies and the choice of a brand name Big Eight auditor after controlling for the effects of client size and growth; however, no consistent association was evidenced using the continuous size proxy for audit quality.

The result of the study of DeFond (1992) suggested that the association between audit quality and agency conflicts is sensitive to both the time period over which changes in agency conflicts are measured (before and after auditor switching) and the choice of the measure used to proxy for audit quality. Beck, Frecka, and Solomon (1988) identified conditions by concurrently modeling the market for MAS and audit services and focusing upon the supply side, under which auditor-auditee bonding can be elevated in a competitive market. While MAS involvement was generally shown to result in greater bonding, knowledge spillovers on recurring engagements reduced this incremental bonding. For nonrecurring MAS engagements, however knowledge spillovers increased the level bonding. Therefore, knowledge spillovers have the opposite bonding effects on recurring and nonrecurring engagements.

Future research on this subject can proceed through developing hazard models. Researchers in marketing have often posed questions about the timing of events; they are interested in not only whether an event will occur but, if so, when it will occur. For example, diffusion of innovation researchers have been interested in not only whether an innovative product is adopted but, also, when it will be adopted (*e.g.*, Sinha and Chandrashekaran 1992). A set of statistical techniques called discrete-time hazard models are ideally suited to answer audit quality and audit switching research questions. Hazard models help the researcher simultaneously explain whether an event occurs and, if so when does it occur. In other words, they focus on the amount of time taken for some event to occur as well as the probability of occurrence. Hazard models also allow researcher to describe patterns of occurrence, compare these patterns among groups, and build statistical models of probability of occurrence over time.

References

American Institute of Certified Public Accountants 1979, *Professional Standards : Ethics. Bylaws, Qu lity Control*, New York : AICPA.

Beck, P.J.,T.J. Frecka, and I. Solomon, 1988, A model of the market for MAS and audit services : Knowledge spillovers and auditor-auditee bonding. *Journal of Accounting Literature 7* : 50-64.

Bernstein, P. 1978, Compensation comes to accounting. *Fortune* (July 17) : 88-96.

Bishea, M. and Associates, Inc. 1982, *Opinion Study for the Wisconsin Institute of Certified Public Accountants,* Milwaukee, WI : M. Bishea and Associates, Inc.

Bloom, P. 1984, Effective marketing for professional services, *Harvard Business Review* (September/October) : 102-110.

Carcello, J.V., R.H. Hermanson, and N.T. McGrath, 1992, Audit quality attributes : The perceptions of audit partners, preparers, and financial statement users, *Auditing : A Journal of Practice and Theory* (Spring) : 1-15.

Congram, C., and R. Dumesic 1986, *The Accountant's Strategic Marketing Guide,* New York : Wiley.

Cowan, A. 1990, How desperate can auditors get ? *The New York Times* (November 5) : C1, C5.

DeAngelo, L. 1981a, Auditor independence, 'low balling' and disclosure regulation, *Journal of Accounting and Economics* (August) : 113-127.

_____ 1981b, Auditor size and audit quality, *Journal of Accounting and Economics* (December) : 183-199.

DeBerg, C.L., S.E. Kaplan, and K. Pany. 1991. An examination of some relationships between non-audit services and audit change, *Accounting Horizons* (March) : 17-28.

DeFond, M.L. 1992, The association between changes in client firm agency costs and auditor switching, *Auditing : A Journal of Practice and Theory* (Spring) : 16-31.

Dopuch, N., and D. Simunic. 1980, The nature of competition in the auditing profession : A descriptive and normative view, *Regulation and the Accounting Profession,* Belmont, Calif : Lifetime Learning Publications.

_____, and _____ 1982, Competition in auditing . An assessment. *Symposium on Auditing Research IV.* Urbana, Illinois : University of Illinois.

Dopuch, N. 1984, The demand for quality differentiated audit services in an agency cost setting. An empirical investigation, discussion comments, *Symposium on Auditing Research IV.* Urbana, Illinois : University of Illinois.

Eichenseher, J. W., and D. Shields 1989, Corporate capital structure and auditor 'fit', Advances in Accounting (Supplement I) : 39-56.

_____, and _____ 1986. Corporate capital structure and auditor 'fit' Working paper, University of Wisconsin, Madison, WI.

Francis, J.R., and E.R. Wilson. 1988, Auditor changes : A joint test of theories relating to agency costs and auditor differentiation, *The Accounting Review* (October) : 663-681.

Healy, P., and T. Lys. 1986, Auditor changes following big eight takeovers of non-big eight audit firms, *Journal of Accounting and Public Policy* (Winter) : 251-265.

Jensen, M., and W. Meckling. 1976, Theory of the firm : Managerial behaviour, agency costs and ownership structure, *Journal of Financial Economics* (October) : 305-360.

Johnson, W.B., and T. Lys. 1990, The market for audit services : Evidence from voluntary auditor changes. *Journal of Accounting and Economics* (January) : 281-308.

Kotler, P., and P. Bloom. 1984, *Marketing Professional Services,* Englewood Cliffs, NJ : Prentice-Hall.

Mautz, R. K., and H. Sharaf 1961, *The Philosophy of Auditing,* Sarasota, Florida : American Accounting Association.

Nichols, D. and D. Smith 1983, Auditor credibility and auditor changes, *Journal of Accounting Research* (Autumn) : 534- 544.

Palmer, R. 1989, Accounting as a mature industry. *Journal of Accountancy* (May) : 84-88.

Palmrose, Z.V. 1986, The effect of nonaudit services on the pricing of audit services : Further evidence, *Journal of Accounting Research* (Autumn) : 405-411.

_____ 1984, The demand for quality-differentiated audit services in an agency setting, *Symposium on Auditing Research IV.* Urbana, Illinois : University of Illinois.

Parasuraman, A., V. Zeithaml, and L. Berry. 1985, A conceptual model of service quality and its implications for future research, *Journal of Marketing* (Fall) : 41-50.

Shockley, R.A., and R.N. Holt. 1983, A behavioural investigation of supplier differentiation in the market for audit services, *Journal of Accounting Research* (Autumn) : 545-564.

Sinha, R. K., and M. Chandrashekaran. 1992, A split hazard model for analyzing the diffusion of innovations, *Journal of Marketing Research* 29 : 116-127.

Smith, C.W., and J.B. Warner 1979, On financial contracting : An analysis of bond covenants, *Journal of Financial Economics* (June) : 159-172.

Simunic, D. 1984, Auditing, consulting, and auditor independence, *Journal of Accounting Research* (Autumn) : 679-702.

_____, and M. Stein, 1987, Product differentiation in auditing : Auditor choice in the market for unseasoned new issues, *Canadian Certified General Accountants' Research Foundation.* Vancouver, Canada.

_____, and _____ 1990, Audit risk in a client portfolio context, *Contemporary Accounting Research* (Spring) : 329-343.

Watts, R. and J. Zimmerman, 1980, The markets for independence and independent auditors, Unpublished manuscript. Rochester, New York : University of Rochester.

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DOCTORAL RESEARCH IN ACCOUNTING IN INDIA : TO PREPARE AGENDA AHEAD

*G. Soral**

The author compares doctoral researches in accounting in India with those in the States, analyses the reasons for 'gap' and then suggests the 'agenda' for immediate future on the basis of certain recent developments.

Over past few decades, doctoral dissertations in accounting have substantially grown in number in different Universities in India. However, doubts regarding their declining standard and missing direction have been raised time and again. With a view to make preparations for agenda for coming years of doctoral researches in accounting in the country, a humble attempt has been made in this paper. The paper is divided into two major parts. In the first part, a review of the existing scenario is made to identify guiding points for the future. The latter part crystallizes to an extent the expectations about the future of doctoral accounting research.

In order to identify the direction and extent of doctoral research in accounting in India, a study was made by the author which compared Indian doctoral dissertations with those of the United States of America—a country well-known to have led the modern accounting world. The relevant features of the study are reproduced below :

A. Objectives

Following were the main objectives of the study :

1. To pinpoint the differences in the type and coverage of doctoral researches in accounting in the two countries.
2. To identify reasons for such differences.

B. Methodology

Information regarding doctoral researches in the United States was collected from the Dissertation Abstracts International volumes 48, 49 and 50 published during 1988 and 1989. The required information is classified in these volumes under the heading "Business Administration :

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Accounting". Index India, published by University of Rajasthan Central Library, Jaipur, was the source for information regarding Indian doctoral dissertations. Volumes 22 and 23 published in 1988 and 1989 of the Index were referred for the present study. Titles of accounting researches were selected from those appearing under the heading "Commerce" in the Index.

The information thus collected was classified in seven subject-areas namely Management Accounting and Financial Management, Auditing, Taxation, Accounting Standards, Accounting Information and Corporate Reporting, Financial Forecasting, and Miscellaneous. The classified information was then analysed collectively and individually.

C. Analysis

The subject area-wise break-up of 42 Indian and 119 American doctoral dissertations in accounting, the information about which could be collected, is presented in Table 1.

Table 1

Subject area-wise Break-up of Doctoral Researches in Accounting

Subject-Area	Number in India	Number in U.S.
1. Management Accounting and Financial Management	27 (64)	12 (10)
2. Auditing	—	32 (27)
3. Taxation	4 (10)	18 (15)
4. Accounting Standards	—	9 (8)
5. Accounting Information and Corporate Reporting	5 (12)	30 (24)
6. Financial Forecasting	2 (5)	16 (5)
7. Miscellaneous	4 (9)	12 (11)
Total	42	119

(Percentage in parentheses)

As is evident from Table 1 the subject area-wise focus of Doctoral Accounting Research in India and in the United States have been apart

different. Maximum concentration (64 per cent) of the Indian researchers have remained attached with Management Accounting and Financial Management, some research has also been conducted in Accounting Information and Corporate Reporting area (12 per cent), and in Taxation (10 per cent). On the other hand, major research areas in the United States have been Auditing (27 per cent) and Accounting Information and Corporate Reporting (24 per cent). In addition, research work in Taxation (15 per cent), Management Accounting and Financial Management (10 per cent) and on Accounting Standards (8 per cent) was also done there. This is worth-noting that no evidence of research related with Auditing and Accounting Standards is available in India. This shows that the scope of Doctoral Research in Accounting has been much less extensive in India than that in the U.S.

Table 2.1a

Doctoral Researches in Management Accounting and Financial Management in India

	Topic groups	Number
a.	Financial Management	15
	— in particular industry or corporation	
	— Corporate Dividend Policy	
	— Role of Internal Financing	
	— Working Capital Management	
	— Public deposits as working capital source	
	— Management of quick assets	
	— Inventory management of quick assets	
	— Inventory systems under inflation and stock dependent consumption	
b.	Cost Accounting	4
	— Cost Accounting in Cotton Textile industry	
	— Budgetary control in banks	
	— Changes in Cost structure in sugar mills	
	— Operating efficiency analysis through costing techniques	
c.	Management Accounting Techniques	8
	— Analysis of financial statements	
	— Analysis of Capital Structure	
	— Profitability analysis	
	— Cost of capital measurement	
	Total	27

After the comparison of subject area-wise break-up of the doctoral researches, individual subject area-wise analysis is presented in Table 2.1a.

Table 2.1b

Doctoral Research in Management Accounting and Financial Management in the United States

	Topic groups	Number
a.	Financial Management — Mfg. performance in leveraged buyouts — Debt-equity swaps	2
b.	Cost Accounting — Effect of evaluating performance with performance report (budget) variances on reported performance — Role of cost accounting in a computer-integrated mfg. environment — Budget activities and their impact on budget process — Budgetary slack and performance under participative budgeting	4
c.	Management Accounting Techniques — Mathematical programming to capital rationing problems — Implementation of Decision Support System — Data Development Analysis for non-profit entities — Resource allocation process : power control model etc.	6
	Total	12

1. Management Accounting and Financial Management

As has been mentioned above, Indian researches are found to have remained mainly confined to this area (Tables 2.1a and 2.1b). Out of 27 researches analysed, 15 are related with topic-group of Financial Management, 4 to Cost Accounting and the rest 8 to techniques of Management Accounting. Whereas out of 12 researches from the U.S., only 2 are found related with Financial Management and 4 and 6 respectively with Cost Accounting and Management Accounting techniques. This leads to a broad inference that American researches have greater concentration on tools rather than management techniques. Further, topics of American researches are obviously more pinpointed than those of Indian ones.

Table 2.2

Doctoral Researches in Auditing in the United States

	Topic groups	Number
A.	Audit Programme :	3
	— Designing knowledge-based decision support systems for	
	— Effect on audit effectiveness and efficiency	
	— Attention and encoding during audit planning	
B.	Internal Control :	4
	— Effect of the Single Audit Act on local Government unit internal control systems	
	— Formalization of internal control evaluation	
	— Internal auditor judgement for Financial fraud detection	
	— Organizational professional conflict in internal audit function	
C.	Auditor Risk :	3
	— Assessing auditors' business risk	
	— Experience effects in components of analytical risk assessment	
	— Risk properties of analytical procedures using orthogonal polynomial regressions	
D.	Audit pricing :	2
	— Audit pricing and auditor choice	
	— Effects of product differentiation and economies of scale on external audit fees	
E.	Audit Sampling :	2
	— SAS No. 39 guidelines for nonstatistical sampling	
	— Sieve method and rectification sampling	
F.	Auditing and Moral Hazard :	2
	— Effect of auditing on moral hazard and information asymmetries	
	— Demand for auditing in environment of moral hazard	
G.	Audit Litigation :	2
	— Auditing, litigation and insurance	
	— Examining factors associated with audit litigation	
H.	Auditor Independence :	3
	— Auditor independence and its determinants	
	— Effect of (certain) factors on auditor independence etc.	
I.	Others :	11
	— Validity of accounts receivable confirmation as audit evidence	
	— Analysis of attempts to influence Auditing Standards Board	
	— Auditing as verification of financial information	
	— Implications of seemingly irrelevant evidence for exposure of fraudulent reporting	
	Total	32

2. Auditing

A glance at Table 2.2 makes it apparent that in this subject-area of Auditing where the sample gives no evidence of doctoral research in India, the scenario in the U.S. is just reverse. The U.S. researches show a wide spectrum of topics related with Auditing covered which touch upon audit programme, internal control, auditor's risk, audit pricing, audit sampling, moral hazard, audit litigation, auditor independence etc. One major reason of this comparative position appears that most American Universities faculty members are professional auditors themselves while this is not the case in India. Still, this should not be taken as any excuse by Indian academics and rather, they should appreciate the ample scope of research in this subject-area.

Table 2.3a

Doctoral Researches in Taxation in India

	Topic groups	Number
A.	Overall Tax Provisions	3
	— Influence of direct tax laws on foreign investment in India	
	— Impact of Income-tax provisions on Indian Socio-economic policy	
	— Impact of tax incentives on investment decisions in selected companies	
B.	Others	
	— Tax structure in Andhra Pradesh	1
	Total	4

3. Taxation

On comparison of Indian scenario with that in the United States (Tables 2.3a and 2.3b), it is revealed that the topics of researches in the U.S. remained much more diversified than the Indian ones. Substantial research is available in the U.S. on specific tax provisions as well as on tax-compliance, while these areas remained virgin in India. Further, comparison of individual topics of doctoral researches in the two countries makes it obvious that topics of researches in India in most cases were also well-focused like those in the U.S.

Table 2.3b

Doctoral Researches in Taxation in the United States

	Topic groups	Number
A.	Overall Tax Provisions — Impact of Income taxes on nominal int. rates — Distributional and labour supply effects of alternative income-tax proposals — Effects of State taxation and plan type on small employer retirement plan cost	3
B.	Specific Tax Provisions — Impact of research and experimentation tax-credit on the corporations research exp. — Impact on the charitable classes of changes in the economics of Pvt. Philanthropy — Analysis of QTIP (Qualified terminable interest property election) and related provisions (relates to transfer of property between individuals) — Individual versus family : Analysis of horizontal equity and tax payer filing status — Analysis of current state tending formulas (Used for market valuation of certain assets)	5
C.	Compliance — Impact of sanction communications on tax compliance — Effects of tax-reforms on taxpayer compliance — Relative effect of penalty magnitudes on compliance — Income-tax evasion and effectiveness of tax compliance legislation — Tax payer's perceptions of fairness — Factors in non-compliance decision	6
D.	Others — Analysis of factors used by tax courts in applying the step transaction doctrine — Reference outcome effects in taxpayer decision making — Role of taxes in acquisitions — Towards parity between S. corporations and partnerships and simplification of S. corporation taxation	4
	Total	18

Table 2.4
Doctoral Researches related with Accounting standards in the United States

	Topics	Number
1.	Impact of SFAS No. 2 and Economic Recovery Tax Act of 1981 on firm's spending behaviour.	
2.	Impact of FASB statement numbers 8 and 52 on multinational corporations.	
3.	Empirical evaluation of the predictive ability of segment data disclosed in accordance with FASB statement no. 14.	
4.	Empirical investigation of the effects of the quality of segmental disclosure on the behaviour of systematic risk of diversified firms (SFAS No. 14).	
5.	Comparison of historical cost data and FASB statement no. 33 current cost data in the prediction of corporate bond rating.	
6.	Association between market risk and accounting risk alternatively measured (SFAS No. 33).	
7.	A model of NYSE firm manager position and participation choice on March 1985 FASB exposure draft : Employer's Accounting for pensions.	
8.	The informational impact of pension liabilities on corporate risk (SFAS No. 87).	
9.	An empirical investigation of the lobbying influence of large corporations on selected FASB standards.	
	Total	9

4. Accounting Standards

As table 2.4 reveals, doctoral researches on the impact of various FASB statements were available in the U.S. On the other side, influence on such standards of "Lobbying of large corporations" was also investigated in one case. However, there is no evidence of research on International Accounting Standards or the standards set in other countries. Thus, it may be concluded that the focus of doctoral research on accounting standards in the U.S. has been much limited. In India, still, the research on even indigenous accounting standards was yet to begin.

Table 2.5a

Doctoral Researches in Accounting Information and Corporate Reporting area in India

	Topic groups	Number
A.	For security valuation and stock exchanges : — Determinants of equity prices in India. — Valuation of shares of companies in India. — Cost of capital and corporate policy with special reference to the influence of changes in accounting variables on stock prices.	4
B.	Others : — Recent trends in published accounting reports in India.	1
	Total	5

Table 2.5b

Doctoral Researches in Accounting information and Corporate reporting area in the United States

	Topic groups	Number
A.	For security valuation and stock exchanges : — Two essays : An empirical investigation into the determinants of security returns, and, the association between market determined and accounting determined risk measures revisited. — Differential information content in earnings announcements : Analysis of role of information transfers. — Pension assets and market risk of equity — Earnings information content of stock dividend and split announcements. — Information transfers and information leakages associated with earnings releases. — Financial reporting and market data-signalling equilibrium perspective. — Association between stock-market responses to earnings announcements and regulation of electric utilities. — The E/P effect and the earnings forecast error effect : A comparison of two stock market anomalies. — Bond rating assigned to tax-exempt hospital revenue bonds. — The effect of defined benefit pension plans on corporate valuation.	17

Topic groups	Number
— The impact of exchange rate changes on security returns and financial reporting.	
— Differential information content of stock dividend announcements.	
— Usefulness of cash-flows relative to accrual earnings : A security valuation study.	
— The effect of mode of information presentation and perceptual skill on bond rating change decisions.	
— The compatibility of market returns and income number observed after adjustments to retained earnings.	
— The market's evaluation of footnote disclosures for firms using LIFO inventory accounting.	
— Earnings-Signals and inter-firm information transfers.	
B. Others	13
— The impact of supplementary, inflation-adjusted financial statement information on labour's assessment of corporate ability to pay.	
— Segment cash-flow statement : An empirical examination of its impact on lending decision.	
— An investigation of the effect of alternative presentation formats on preparers and users of city financial reports.	
— The effect of accounting based bonus plan incentives on managers' financial reporting behaviour and analysts' forecast accuracy.	
— An empirical investigation of the effects of alternative performance measurement schemes on the agent's disclosure of private information.	
— The impact of comprehensive allocation and flow through method of accounting for the income-taxes on the investment decision.	
— Inter-firm information transfer and disclosure timing.	
— Pre-announcement accounting information : Measurement techniques and empirical properties.	
— Firm size, industry accounting norms and the information content of accounting change announcement.	
— The impact of measurement errors and multicolinearity on the study of the relationship between accounting information and market-determined risks.	
— Towards a positive theory of state govt. accounting disclosure.	
— Information content of discontinued operations.	
Total	30

5. Accounting Information and Corporate Reporting

It is evident from Tables 2.5a and 2.5b that research in this area in India has been mainly focused on security valuation and Stock Exchanges rather than on other uses of accounting information. In the U.S. also, substantial research work was done in this area relating to stock market. But equally extensive has been the research for other accounting information users like labour, lenders etc. A comparison of topics of researches indicates that research in this area in India has just begun while the contemporary research in the U.S. has been advanced.

Table 2.6a

Doctoral Researches related with Financial Forecasting in India

	Topics	Number
1.	Monitoring of industrial sickness of corporate enterprises in India.	
2.	Corporate sickness in India : A case study of cotton textile industry.	
	Total	2

Table 2.6b

Doctoral Researches related with Financial Forecasting in the United States

	Topics	Number
1.	Time series properties and forecasting of financial ratios.	
2.	Analysis of smoothing of proved oil and gas reserve quantities and an analysis of bias and variability in revisions of their previous estimates.	
3.	Income smoothing : A laboratory experiment.	
4.	Predictive ability of financial ratios : A test of alternative models.	
5.	Modelling the local govt. general funds deficit.	
6.	Cash flow predictions using alternative income measures.	
	Total	6

6. Financial Forecasting

On comparison of Tables 2.6a and 2.6b it is found that though doctoral researches in this subject area in the two countries volume-wise have been similar, such research in India has been in infancy remaining confined to prediction of corporate sickness. As the research topics suggest, in the U.S., researches in this area encompassed predictions of financial ratios, cash flows, income and deficit besides quantitative predictions.

Table 2.7a

Doctoral Researches in Miscellaneous Accounting areas in India

Topics	Number
1. Case studies on acquisition/mergers/take-overs of companies in India.	
2. Capital issues in India.	
3. Depreciation accounting in Sugar industry in India.	
4. Productivity trends in Indian public sector with special reference to iron and steel industry.	
Total	4

Table 2.7b

Doctoral Researches in miscellaneous Accounting areas in the United States

Topics	Number
1. A critical investigation of positivism : Its adequacy as an approach for accounting research.	
2. The relationship between changes in certain firm characteristics and the changes in certain firm top management compensation plans (as precipitated by conglomerate mergers).	
3. Effects of accounting techniques on the study of market power.	
4. The contributions of F.A. Cleveland to the development of a system of municipal accounting in the Progressive Era.	
5. Legislative action, political costs and firm accounting Choice.	
6. The economic determinants of accounting choice : The case of accounting for pensions.	
7. The effect of foreign trade regulation on accounting choice and production and investment decisions.	
8. Structural models of the accounting process and earnings.	
9. The relationship between investment in information technology and firm performance in the manufacturing sector.	
10. An empirical investigation of the effect of the ownership control on the choice of accounting methods.	
11. The perceptions of accounting students as to the importance of written communication skills for success in accounting careers.	
12. Transaction costs and control systems choice in multinational enterprises.	
Total	12

7. Miscellaneous

Other topics of doctoral dissertations in India have been related with depreciation accounting, productivity trends, capital issues and mergers etc. (see tables 2.7a and 2.7b). Topics of remaining researches in the U.S. still cover a wider variety of topics ranging from "different factors affecting accounting choice", "Impact of investment in information technology on firm performance", "accounting students' written communication skills" etc. to conceptual ones like "positivism as approach for accounting research", "structural models of accounting" etc.

D. Summary of Findings

Major findings of the analysis above may be summarized as follows :

1. Doctoral researches in accounting in the United States were more diversified and have a larger scope than in India.
2. Such researches in the U.S. are more pinpointed and well-focused topics than in India.

Reasons commonly cited to be responsible for this rather dismal scenario of doctoral researches in accounting in India may be stated as follows :

1. *Scanty and difficult availability of data* : Because of several reasons like aversion on the part of respondents to questionnaires, reluctance of industrial and commercial enterprises to part with data, less developed means of communication etc., the researchers used to have hazardous experience of collecting data which again, in most cases, is not adequate.

2. *Insufficient stress on quality* : The process of working for and getting award of a doctorate degree in most cases does not lay sufficient stress on high quality of research.

3. *Qualifying degree providing insufficient base* : Qualifying degree to join a doctoral programme in many cases is not providing a sound "launching pad" for good quality research, in the sense that such a degree may not prepare a prospective researcher with required knowledge base. In order to plan for future course of action for doctoral researches in accounting in India, certain recent developments are worth-noting :

(a) *Demolishing economic walls* : Due to the process of economic liberalisation taken up by the Central Govt., economic walls around the country have been vanishing fast. This has led to easier movement of business enterprises in and out the country, thereby rendering the whole business culture to be global. For accounting researchers, this may provide easy data accessibility due to less aversion.

(b) *Profuse information flow* : With the advent of telecommunication advancements, the whole world is shrinking to become a global village. Information exchange has become considerably less expensive and much more convenient. Easier availability of information this way also would facilitate better doctoral research.

(c) *Ample data and word processing facilities* : With the advancement in computerization, these wonderful electronic machines are becoming more and more efficient for data and word processing. Further, accessibility to computers went on increasing due to more user-friendly packages coming in and prices of computers slashing down. This development has led to more productive use of researchers' energy.

In a nut-shell, these developments have paved the way for doctoral researches which can be—

— more pinpointed.

— with sufficient empirical base.

— with global outlook, and

— inter-disciplinary nature.

For immediate future, the agenda of doctoral researches in accounting in India may proceed along the following directions :

* Transparency in accounting.
* Ethics in accounting.
* Accounting education.
* Information technology in accounting.
* Behavioural inputs in accounting.

Reference

G. Soral, Doctoral Research in Accounting : Indian vis-a-vis American Scenario, paper presented at the Second International Conference of I.A.A. Research Foundation (Jan. 22-23, 1994) held at Calcutta.

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CASH FLOW STATEMENT : SOME CONCEPTUAL AND PROCEDURAL ISSUES

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The author explores the key conceptual and procedural issues concerning the preparation and presentation of the cash flow statement, and examines how improvements can be brought about in the form and content of the statement in order to enhance its usefulness to users.

Introduction

Corporate financial accounting and reporting practices have undergone radical changes all over the world in recent years. Many new statements and schedules have been developed and successfully incorporated into the formal structure of corporate financial reports. One of the newly-innovated financial statements, about which much has been said and many words written, is the cash flow statement. This statement is aimed at providing information about the cash inflows and cash outflows of an enterprise during a reporting period. Accounting standard setting agencies in many countries have promulgated accounting standards specifying the form and content of the cash flow statement. There are a number of countries (e.g. Australia, Canada, New Zealand, USA and UK) where it has become a statutory requirement for companies to include a cash flow statement in their published financial reports. Providing a cash flow statement in published financial reports has now become a universally accepted norm for multinational companies. The International Accounting Standards Committee (IASC), which is charged with promulgating financial accounting and reporting standards for international use, has also produced an accounting standard on the subject of cash flow reporting (IASC, 1992). This accounting standard has received endorsement from a large number of countries in which the international accounting standards form the basis of formulation of national accounting standards. The cash flow accounting standard of the IASC is the only international accounting standard that has got official backing from the International Organisation of Securities Commission (IOSCO).[1]

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[1] IOSCO is the international body of securities commissions. The Securities and Exchange Board of India (SEBI) is a member of this international agency.

The emergence of the cash flow statement is a phenomenon of very recent origin. Although the statement has been recognised in the accounting and finance literature as a very useful addition to the information base of published company accounts, there still exists a great deal of confusion among accountants as to the extent to which financial statements users can be benefitted by it. There are also considerable differences of opinion among accountants as to how the statement should be prepared and presented. The accounting standards that have been developed in different countries on the subject of cash flow reporting differ from one another in many significant respects. Differences are encountered even in matters concerning the interpretation of the term "cash" and classification of cash inflows and outflows. In this study an endeavour is made to explore the major conceptual and procedural issues relating to the preparation and presentation of the cash flow statement and to identify the areas where further improvements can be brought about. The study begins by an identification of the users of published company financial reports and the information needs of such users. Identification of user groups and their information needs is a prerequisite for judging the efficacy of a financial reporting system or of any constituent element thereof.

Users of Financial Reports and Their Information Needs

Published financial reports of corporate enterprises are usually called general-purpose financial reports because they are required to serve the information needs of a wide range of user groups. The composition of the user groups and the relative importance of such groups have changed with the passage of time as a result of changes in the economic, social, legal and political environment of business. This is why the process of identification of user groups and their information needs has always been a continuing one. In 1975, the Accounting Standards Steering Committee (ASSC) of the UK published a discussion document entitled *The Corporate Report* which listed seven user groups as being entitled to receive accounting information and whose information needs should be satisfied by a financial report (ASSC, 1975). These user groups are : (1) equity-investors groups, (2) the loan creditors group, (3) the employees group, (4) the analyst-adviser group, (5) the business contact group, (6) the government, and (7) the public. The US Financial Accounting Standards Board (FASB) in its *Concepts Statement No. 1* entitled "Objectives of Financial Reporting by Business Enterprises" (FASB, 1978), identified a large number of user groups which correspond closely with those listed in the ASSC discussion document. The FASB statement, it may be mentioned here, was largely based on the Trueblood Study Group Report entitled *Objectives of Financial Statements* (AICPA, 1973) which broke

away with the traditional concept of stewardship reporting by focusing on decision usefulness.

More recently, the IASC has published a conceptual framework (IASC, 1989) which has also adopted an approach which is similar in many respects to that of the ASSC discussion document referred to above in the matter of identification of user groups. According to the IASC framework, published company financial statements are required to serve a large number of user groups which include "present and potential investors, employees, lenders, suppliers and other trade creditors, customers, governments and their agencies and the public" (IASC, 1989, para 10). The position that the IASC has taken in its conceptual framework has been fully endorsed by the accounting standard setting bodies in many countries, including the UK. In its draft *Statement of Principles* the UK Accounting Standards Board (ASB) has provided a list of user groups which is virtually a copy of that contained in the IASC framework (ASB, 1992, Ch. 1). It may, however, be mentioned in this connection that both the IASC and ASB have in their identification of the user groups excluded the analyst-adviser group mainly because of the fact that analysts/advisers normally act as agents for one of the other user groups.

Although published company financial reports are required to serve the information needs of a large number of user groups, there are some user groups that deserve far greater attention than others. The implication of this statement is that in designing the form and content of published company financial reports a decision has to be taken as to the user group the information needs of which are to take precedence. In a market economy where it is the normal practice of companies to procure the major part of their capital by selling securities to the investing public, corporate financial reporting is to register a natural tendency to be oriented to investors. Investors-oriented financial reporting practices are generally encountered in most Anglo-Saxon countries. Such practices are also largely prevalent in those countries that have adopted the Anglo-Saxon business tradition. In most of these countries, the principle of awarding primacy to investors group in corporate financial reporting has been given formal recognition in official policy documents. For example, the FASB in the *Concepts Statement No. 1* (ISFAC 1) has developed eight objectives, all of which focus on providing information needed by current and prospective investors in making their credit and investment decisions. Although investors and creditors constitute two separate user groups, they are not significantly different from each other in respect of their information needs.

The ASB in its *Statement of Principles* states it categorically that the investors group is the primary group for whom the financial reports are being prepared. It has, however, been made clear in the document that

awarding primacy to investors group does not imply that the information needs of other groups will be neglected. According to the document :

> Awarding primacy to investors does not imply that other users are to be ignored. The information prepared for investors is useful as a frame of reference for other users, against which they can evaluate more specific information that they may obtain in their dealings with the enterprise (ASB, 1992, Ch. 1).

The IASC conceptual framework, which sets out the concepts that underlie the preparation and presentation of financial statements for external users, seems also to be quite specific in the matter of awarding primacy. It not only gives primacy to the needs of investors but also makes the assertion that, because investors are providers of risk capital to the enterprise, financial reports which can satisfy the information needs of investors will automtically be able to meet the information needs of most other users (IASC, 1989, para 10).

Information Needs of Investors

Investors are basically concerned with making economic decisions as to whether they should buy, hold or sell securities. Decision making requires information. It may not be possible for a financial reporting system to provide investors with all the information they need in making their buy-hold-sell decisions, but those who are responsible for formulating financial accounting and reporting rules must be familiar with such needs if they are to perform their jobs efficiently and effectively. Since investors are not any homogeneous lot, serious difficulties are often encountered in assessing what information they actually need in making their investment decisions. Attempts have been made to overcome these difficulties by focusing on the normative investment decision model. This model is similar in many respects to the one normally used by finance managers in making capital investment decisions. An investor ought to invest money in a corporate security if the present value of the cash flow stream that is expected to be generated by the investment is not less than the cash that he is to invest for the purpose (Hendriksen and Breda, 1992, p.268). So if the principal objective of financial reporting is to serve the information needs of investors, it must provide them with information which is useful in estimating the future cash flows that will accrue to them in the form of dividends and other receipts. Stated differently, "corporate financial reports should provide information to aid investors in predicting the amounts, timing, and the related uncertainties of net cash flows from investments" (Bloom and Debessay, 1984, p.7).

The future cash flows that are expected to accrue to investors are affected by the ability of the enterprise itself to generate cash from its activities. Corporate financial reporting should, therefore, aim at providing

information to help investors assess the ability of the enterprise to generate cash in the future and of the certainty of their generation. The FASB *Concepts Statement No. 1* elaborates on the theme thus :

> Financial reporting should provide information to help present and potential investors and creditors and other users in assessing the amounts, timing and uncertainty of prospective cash receipts from dividends or interest and the proceeds from sale, redemption and maturity of securities or loans. Since investors and creditors' cash flows are related to enterprise cash flows, financial reporting should provide information to help investors, creditors and others assess the amounts, timing, and uncertainty of prospective net cash inflows to the related enterprise (FASB, 1978, para 37).

In order to be able to arrive at a basis for estimating the ability of an enterprise to generate net cash inflows in the future investors need information about its financial condition, performance and changes in financial condition. Published financial reports should be concerned with providing precisely this kind of information.

Information about the financial condition and performance of an enterprise is provided by its balance sheet and profit and loss account. The balance sheet is focused on the financial condition of the enterprise, while the profit and loss account concerns itself with the enterprise's financial performance. There must exist a third financial statement to provide information about changes in the financial condition of the enterprise. The cash flow statement is able to do this job. It is aimed at providing information as to how an enterprise has generated and absorbed cash during the reporting period. This information can be very useful in assessing the liquidity, solvency, financial flexibility and risks of the enterprise. When the information provided by the cash flow statement is used in conjunction with the information provided by the conventional accrual-based balance sheet and profit and loss account, a strong basis can be obtained for assessing the prospects for future cash flows of the enterprise. Before elaborating any further on this theme it is necessary at this point to examine what actually has gone wrong with the funds flow statement which the cash flow statement has sought to replace.

The Rise and Fall of the Funds Flow Statement

The funds flow statement was developed with the principal objective of providing a link between the opening and closing balance sheets. The balance sheet gives information about the financial condition of an enterprise at a particular point in time. It cannot offer any indications as to the changes that have taken place in reaching the present financial condition. The profit and loss account can explain some of the changes that have taken place between the balance sheet dates, but there are many changes in respect of which it has no explanations. The funds flow

statement is capable of explaining many of these other changes. Although the statement has been used in practice for over 100 years[2], it was only after the issuance by the US Accounting Principles Board (APB) of an opinion, *Opinion No. 3*, in 1963 that it started getting widespread support from all sections of the accounting community (AICPA, 1963). The opinion was recommendatory in nature; it encouraged but did not require the inclusion of a funds flow statement in published company financial reports. One of the key arguments that the APB put forward in support of the statement was that :

> The statement of sources and application of funds is helpful because it presents other information which ordinarily cannot be obtained from the financial statements and because it presents articulated information about the flow of funds (para 3).

In 1971, the APB issued another opinion, *APB Opinion No. 19,* which made it obligatory for companies to pesent a statement of changes in financial position as a basic financial statement, By the mid-1970s it had become a common practice among companies in many countries belonging to the Anglo-Saxon accounting camp to present a funds flow statement either as a constituent element of the basic financial statement or as a supplementary document. Accounting standards were formulated in many countries in the 1970s specifying the form and content of the funds flow statement. The IASC also did not lag behind. It promulgated an international accounting standard on the subject in 1977 (IASC, 1977).

Enthusiasms for the funds flow statement did not, however, last long. The late 1970s and the early 1980s witnessed mounting dissatisfactions with this financial statement. As it increasingly became apparent that the statement was not serving any meaningful purposes, there arose a demand for scrapping it altogether. The main criticisms that were levelled against it centred around the following themes :

(1) Because it was largely based on the differences between the beginning and ending balance sheets, it could add nothing new to the information content of published company accounts;

(2) The concept of movement of working capital on which the statement was based was not an easy one to grasp;

(3) It tended to obscure information on the movement of cash which is a vital factor for the survival of a business (increases or decreases in working capital do not necessarily indicate increases or decreases in cash); and

(4) In many cases the funds flow statement failed to alert users to impending failures.

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[2] A detailed account of evolution of the funds flow statement can be obtained in Rosen and DeCoster (1969).

Official responses to the criticisms against the funds flow statement first came from the Canadian Institute of Chartered Accountants (CICA). It introduced in 1985 a cash flow accounting standard which superseded its earlier standard on funds flow statement (CICA, 1985). The US professional pronouncement to this effect came two years later. The FASB accounting standard entitled *Statement of Cash Flows (SFAS 95)* was promulgated in 1987 (FASB, 1987) and it superseded the *APB Opinion No. 19.* All profit-oriented enterprises in this country are now required to prepare a cash flow statement when an income statement and balance sheet are presented. The form and content of the cash flow statement have been clearly specified in the accounting standard. Accoording to the FASB, the cash flow statement will help users assess (1) ability to generate future positive cash flows, (2) ability to meet obligations and pay dividends, (3) reasons for differences between profits and cash receipts and payments, and (4) both cash and noncash aspects of entities' investing and financing transactions.

The CICA and FASB examples were soon followed by their counterparts in many other countries (eg Australia, New Zealand, South Africa and the UK) and they also replaced the requirement to produce a working capital-based funds flow statement by a statement based on cash flows. In the UK, the newly-created Accounting Standards Board (ASB) opened its account by promulgating in 1991 an accounting standard entitled *Financial Reporting Standard (FRS) 1 : Cash Flow Statement* (ASB, 1991). This standard replaced the ASC funds flow accounting standard, *SSAP 10.* The principal reason that the ASB advanced in support of requiring a cash flow statement was stated in the following terms :

> Historical cash flow information may assist users of financial statements in making judgements on the amount, timing, and degree of certainty of future cash flows; it gives an indication of the relationship between profitability and cash generating ability, and thus of the quality of the profit earned (ASB, 1991, para 48).

In India, there has been no requirement in the past to present a funds flow statement in published company accounts, but many companies have been providing such a statement on a voluntary basis for a long time. Very recently, the Accounting Standards Board of the Institute of Chartered Accountants of India (ICAI) has initiated the process of development of an accounting standard which will be concerned with provision of information about the historical changes in cash and cash equivalents by means of a cash flow standard (ICAI, 1985). As it appears from the discussion document published by the ICAI in March 1995 and its subsequent official releases, the proposed cash flow accounting standard will be similar in almost all material respects to the IASC cash flow standard currently in force.

Cash Flow Accounting as an Alternative to Accrual Accounting

In the conventional system of accounting, financial statements are prepared based on the accruals principle. According to this principle, the effects of transactions and events on the resources and obligations of a business enterprise are to be recognised and reported in time periods to which they relate rather than when cash in received or paid. Periodic profits under this system of accounting are computed by allocating revenues and costs to specific accounting periods to which they are judged to relate. Revenues can be allocated fairly easily but difficulties are encountered in the matter of allocation of costs. In most cases it becomes difficult to find out an objective basis for determining how costs should be allocated to periods. Rules and guidelines have, of course, been formulated for this purpose but most of them are, to a great extent, arbitrary in nature. According to Thomas (1974), the arbitrary nature of accounting allocations leads to inaccurate description of the financial position and performance of an enterprise. It is his contention that :

> Excepting rare instances where productive processes do not interact, and very high levels of input aggregation, financial accounting's allocation assertions are ambiguous and incorrigible. They may be employed to code the accountant's communication of estimates about the firm, but allocation assertions do not reflect anything that exists in the external world, and do not correspond to any aspects of the firm's economic state or activities (Thomas, 1974, p. 156).

A section of accounting academicians nurtured in the Anglo-Saxon tradition have for the last two and a half decades or so been arguing in favour of adoption of an allocation-free financial reporting system based on the movement of cash. This financial reporting system has been described by them as "cash flow accounting (CFA)" because it is based on the principle of describing the financial performance of an enterprise purely in cash terms. In this system of accounting there is no need for making any allocation of costs between periods; financial results can be computed simply by matching periodic cash inflows and cash outflows. Economic events and phenomena of an enterprise that do not have any cash effects during the reporting period are entirely excluded from the purview of financial reporting. Inflows of cash include cash from operations and providers of long-term finance; outflows of cash include payments for replacement and growth investments, taxation, interests and distributions to owners. According to Lee (1981, p.63), who is one of the chief protagonists of CFA, the principal merit of the system is that "(i)t concentrates on the liquidity and financial management of the reporting entity, and conceived in terms both of actual and forecast cash transactions".

The conceptual arguments that have been advanced by the CFA proponents in favour of adoption of this accounting system appear to be quite convincing. Leading researchers on CFA have also provided ample empirical evidence of the utility of the proposed accounting system.[3] But, despite this, the system has not been able to gather sufficient support from the accounting profession. It appears that most people in the accounting profession are not prepared to accept CFA as an alternatiive to the conventional accrual-based accounting. According to them, cash flow information is unable to provide any useful basis for measuring short-term performance because of its inability to show inter-period relationships. It is also maintained by these people that accrual accounting is best suited to provide information necessary for measuring short-term performance of continuing enterprises. On this point, Egginton (1984) has made the observation that CFA is not suitable in providing "a measure of performance on a going concern basis for the continuing entity of the sort which can be provided by a profit measure reflecting accruals and value in use". Although the accounting profession has refused to accept CFA as an alternative to the conventional accrual-based accounting, it has, nevertheless, embraced many of the concepts and ideas contained in the cash flow reporting proposals advanced by CFA researchers. In fact, it is these ideas and concepts which have been the principal motivating force for the accounting standard setting bodies in different countries behind the introduction of the requirement for inclusion of a cash flow statement as a supplementary document in published corporate financial reports.

Form and Content of the Cash Flow Statement

The cash flow statement is concerned with providing information about cash inflows and cash outflows of an enterprise during an accounting period. A cash flow is a "cash movement resulting from transactions with parties external to the entity" (AASB, 1991, para 13). This is a very clear statement and there is no ambiguity in it. But a controversy may arise as to how the term "cash" should be defined. In accounting the term "cash" is normally used to mean cash on hand and bank deposits which can be withdrawn at any time without giving any prior notice. There exist differences of opinion as to whether the reporting basis for the cash flow statement should simply be cash or cash as well as other liquid resources which are very close to cash. Most of the accounting standard setting bodies that have developed cash flow accounting standards have preferred to take both cash and cash equivalents as the reporting basis for the cash flow statement. The term "cash equivalents" is likely to appear to many to be somewhat confusing because it has no standard meaning in

[3] See Lee (1981) for details concerning empirical evidence.

the accounting and finance literature. It is because of this that the standard setting agencies have in their respective pronouncements specified it clearly as to the items of resources that are to be included in the "cash equivalent" category. For example, the Canadian cash flow accounting standard defines cash equivalents as "short-term investments less short-term borrowings" (CICA), 1985). According to the Australian accounting standard on the subject, highly liquid investments that are readily convertible to cash on hand at the entity's option and are used in daily cash management function, as well as borrowings that are integral to cash management function but are not subject to a term facility, fall under this definition (AASB, 1991). The FASB *Statement No. 95* defines cash equivalents as short-term, highly liquid investments that (a) are readily convertible to known amounts of cash and (b) are so near their maturity that they present negligible risk of changes in value because of changes in interest rates (FASB, 1987). The UK definition in this respect is found to be very much precise. According to the ASB, cash equivalents are :

> Short-term highly liquid investments which are readily convertible into known amounts of cash without notice and which were within three months of maturity when acquired; less advances from bank repayable within three months from the date of the advance. Cash equivalents include investments denominated in foreign currencies provided that they fulfil the above criteria (ASB, 1991, para. 3).

In a recent exposure draft issued by the ASB (1996), there is a proposal to make the cash flow statement a pure cash flow one rather than a near cash statement. It is stated in the exposure draft that the term "cash equivalents" will be dropped altogether from the cash flow accounting standard. If the proposals contained in the document are accepted, cash flows will include only cash—defined as cash on hand and demand deposits less overdrafts.

Classification of Cash Flows

The most easiest way of providing cash flow information is to present a summary of cash receipts and payments during the reporting period. But such a statement can hardly be of any use to financial statement users. To be useful to users of financial statements, the information to be provided in the cash flow statement should be based on suitable schemes of categorisation. As has been rightly pointed out by Parks and Georigion (1992, p.53), it is not *"total* cash flows that matter; it is the amount of postitive and negative cash flows in particular categories that matter." Cash flows can be classified using a number of bases. It is usually argued that cash inflows and cash outflows should be classified according to the economic activity which gives rise to them. According

to FASB cash flow accounting standard, the cash inflows and outflows of an enterprise have to be classified into three major categories : operating cash flows, investing cash flows, and financing cash flows. The IASC standard also requires enterprises to present their cash flows classified by operating, investing and financing activities (IASC, 1992). The standard maintains that classification by activities provides information that allows users to assess the impact of those activities on the financial position of the enterprise and also to evaluate the relationship among those activities (IASC, 1992, para 11).

The UK cash flow accounting standard requires enterprises to disclose their cash flows under five headings : (1) operating activities, (2) returns on investments and servicing of finance, (3) taxation, (4) investing, and (5) financing (ASB, 1991, para 24.4). The standard further requires that those headings must generally be given in the order in which they are placed and that the total of the net cash inflows or outflows before financing should also be given. In the recent exposure draft referred to above, the ASB has put forward a proposal for dividing the "investing activities" section into separate headings for "capital expenditure" and "acquisitions and disposals" (ASB, 1996). The ASB proposal is virtually a recognition of the growing belief that a distinction between capital expenditure and acquisitions and disposals is necessary because the former equates to replacement expenditure while the latter represents expansion or contraction of the business, which could be regarded as a more discretionary use or accumulation of cash resources.

Considerable differencess of opinion exist as to how the various elements of cash flows should be attributed to classes of economic activity. Certain normative criteria have, of course, been developed but they have not been able to resolve the controversies. This is one important reason why variations exist in the attribution plans contained in the cash flow accounting standards of different countries. The elements of cash flows that create serious problems in the sphere of classification include interests and dividends paid and received, taxes, replacement investments and extraordinary receipts or payments. An endeavour will be made in the remaining part of this section to obtain an understanding of the nature and significance of the cash flows being included under the different categories.

Operating cash flows : Operating cash flows refer to those cash flows that result from the day-to-day revenue producing activities of the enterprise. According to UK *FRS 1*, net cash flows from operating activities represent the net increase or decrease in cash or cash equivalents resulting from the operations shown in the profit and loss account in arriving at operating profits (ASB, 1991, para 24.4). Examples of operating

cash flows are receipts from trade debtors/customers, payments to suppliers and employees, and payment to other entities for running costs. Operating cash flows of an enterprise can be computed using either the direct method of the indirect method. Under the direct method, net cash flows from operating activities are computed by listing all operating cash receipts and cash payments in the body of the statement. The indirect method, on the other hand, begins with net profits and add back adjustments to such profits to convert them to operating cash. Since the direct method is more informative than the indirect one, most standard setting agencies have expressed opinions favouring the use of the former. In real prectice, however, the indirect method is chosen by most enterprises for the reason that it is less costlier than the other method.

There are conflicting viewpoints regarding the treatment of interests, dividends and taxes in the matter of computation of operating cash flows. According to the FASB standard, interests (both received and paid), dividends received and income taxes are to be treated as operating items (FASB, 1987). Dividend payments are, however, treated by it as financing cash flows. The UK standard (ASB, 1991) excludes all dividends and interests (received as well as paid) from the operating category. In respect of these items, the standard has prescribed a separate category. The standard also provides a separate category in respect of taxation. The IASC has adopted a more flexible approach in this matter. It allows enterprises to choose the procedure they like, but they have to maintain consistency in their practice.

Operating/nonoperating distinction is a crucial one for those financial statement users that are interested in generating predictions concerning the ability of an enterprise to generate cash flows in the future. The ability of an enterprise to generate cash from operations has a significant bearing on its ability to maintain liquidity, solvency and financial flexibility on ongoing basis. What is more, an enterprise can never be successful in the long run without generating positive net cash flows from its operating activities.

Cash flows from investing activities : Investing activities include acquisition and disposition of long-term productive assets or debt and equity securities that are not considered as cash equivalents. According to the international cash flow accounting standard, the following transactions should be included in the category of "investing activities" : (a) cash advances and loans made to other parties (other than advances and loans made by a financial institution); (b) cash receipts from repayment of advances and loans made to other parties (other than advances and loans made by a financial institution); (c) cash payments for future contracts, forward contracts, option contracts etc; and (d) cash receipts from future contracts, forward contracts, and option contracts.

Cash flows arising from investment activities need a separate recognition in the cash flow statement because these are the cash flows that "represent the extent to which expenditures have been made for resources intended to generate future income and cash flows" (IASC, 1992, para 16).

Cash flows from financing activities : Financing activities are "those activities which relate to changing the size and composition of the financial structure of the company, including equities and borrowings not falling within the definition of cash (AASB, 1991, para 13). The FASB cash flow accounting standard requires dividend payment to the company's shareholders to be included in financing activities. It is not clear as to why the FASB treats interests on borrowed capital as operating cash flows and shareholders' dividends as financing cash flows.

Information about cash flows arising from financing activities needs a special focus in the cash flow statement because it is expected to be very useful in predicting claims on future cash flows by providers of capital to the enterprise.

Foreign Currency Cash Flows

There are enterprises that make cash payments or have receipts in foreign currencies. These receipts and payments denominated in foreign currencies have to be translated into the reporting currency in preparing the cash flow statement. Foreign currency translation is a controversial issue in accounting. Opinions differ greatly as to the rate or rates that should be used for purposes of translation of foreign currencies. Most of the standard setting agencies that have cash flow accounting standards have taken the position that foreign currency receipts and payments should be translated using the rate prevailing at the date on which the receipt or payment is made. Gains or losses may arise on the cash and cash equivalents denominated in foreign currencies when there occur changes in exchange rates. These gains or losses arising on exchange rates changes do not give rise to cash flows, but the effect of such changes on the cash and cash equivalents held or due in a foreign currency has to be taken into account in reconciling cash and cash equivalents at the beginning and end of the period.

Noncash Financing and Investing Activities

The cash flow statement is not in a position to account for all the changes that have taken place in the financial condition of an enterprise during the reporting period if there are noncash financing and investing activities. Noncash financing and investing activities can be of various types. Examples include : acquisition of assets through the issuance of securities or incurring of debts, exchange of one asset for another asset,

exchange of one liability for another liability, conversion of debt into equity, and inception of finance lease contracts. It is true that in noncash transactions there are implicit cash movements, but since no physical cash inflows and cash outflows are involved, such transactions cannot be incorporated into the body of the cash flow statement. Most cash flow accounting standards require that all significant noncash transactions be disclosed in a supplementary schedule.

Completion of the Cash Flow Statement

The cash flow statement is concluded with the balance of cash and cash equivalents at the end of the reporting period. But in arriving at this closing balance it is necessary to add the opening balance of cash and cash equivalents with the net increase or decrease in cash and cash equivalents that have taken place during the relevant reporting period. The closing balance shown in the cash flow statement should correspond with that shown in the balance sheet.

Interpreting Cash Flow Information

The information provided by the cash flow statement can be useful to financial statement users only when it is analysed and interpreted with a great degree of care and intelligence. Financial analysts have developed a number of financial ratios for analysing and interpreting the figures contained in published company financial statements. These ratios are used in assessing the liquidity, solvency, profitability and other financial features of an enterprise. But these ratios are meant for interpreting the financial figures contained in the conventional accrual-based balance sheet and profit and loss account. The figures contained in the cash flow statement can very well form the basis of computation of a number of useful financial ratios. Carslaw and Mills (1991) have already developed a set of financial ratios based on the cash flow statement figures, and demonstrated how such ratios can be of use in obtaining a better understanding of the financial position and prospects of an enterprise. The cash flow ratios developed by these two accountants are divided into four categories : cash coverage, quality of income, capital expenditure, and cash flow returns.

Cash coverage ratios are concerned with analysing the ability of an enterprise to meet its obligations and remunerate the providers of its capital. Three ratios are included in this category : (1) cash interest coverage ratios (cash flow from operations before interest and taxes/ interest), (2) cash debt coverage ratio (cash flow from operations less dividends/debt), (3) cash dividend coverage ratios (cash flow from operations/dividends).

The ratios that belong to the "quality of income" category can be of great use in determining reasons for differences between net profits and associated cash receipts and payments. There are two important ratios that can be used to judge the quality of income. These are : (1) the ratio of cash from sales to sales, and (2) the ratio of operating cash flows to operating profits. The latter ratio is particularly important because it provides an indication of the variance between cash flows and reported profits. It is possible to conceive of many other ratios in this category.

Ratios belonging to the "capital expenditure" category are designed to give indications concerning the ability of an enterprise to finance its capital expenditure. The two ratios that can be of crucial significance in this context are : (1) the ratio of operating cash flows less dividends to payments for acquisition, and (2) the ratio of net cash flows for investing to net cash flows from financing. The former ratio can offer an indication as to the ability of an enterprise to meet its capital investment needs, while the latter one can be very useful in making comparisons between the total funds needed for investing purposes with the funds generated from financing activities.

Cash flow return ratios are concerned with assessing returns on investments. These ratios are similar in many respects to the conventional profitability ratios. There can be a number of ratios in this category. Examples include : (1) cash returns on assets (operating cash flows before interests and taxes/total assets), (2) cash returns on capital employed (operating cash flows before interests and taxes/capital employed), (3) cash returns on equity (operating cash flows/shareholders' equity), and (4) cash flow per share (operating cash flows less preference dividends/number of equity shares).

Cash flow ratios can be useful both in trend analysis and in making comparisons across companies. But such ratios should not be used in isolation. They can offer meaningful indications only when used in combination with other traditional measures.

Conclusions

The emergence of the cash flow statement is a relatively recent phenomenon. But it has already become an integral part of the financial reporting scenario in many countries. The statement has been hailed internationally as a great leap forward in providing a more clearer picture of an enterprise's financial health and performance. There is a growing belief that the statement can successfully address many of the shortcomings of the conventional accrual-based financial statements. The Accounting Standards Board (ASB) in the UK has made the assertion that "a cash flow statement forms an essential element of the information required for accounts to give a true and fair view of the state of affairs

of large companies at the end of the financial year and of the profit and loss of the year."[4] Similar assertions have also been made by the accounting standard setting bodies in many other countries that have promulgated cash flow accounting standards.

The cash flow statement is still in its formative stage of development. There is much room for improving its form and content. The statement can be simplified further in order to make it intelligible to the average reader. The way in which cash inflows and cash outflows are currently being shown in the cash flow statement under different headings appears to some extent to be cumbersome. The practice of using brackets to distinguish negative cash flows from the positive ones often gives rise to confusions. There is room for simplifying this presentation. The term "cash equivalents" is also a great source of trouble for many. It may be convenient if the statement becomes a pure cash flow statement. The ASB (UK) seems to have done the right kind of thing by initiating proposals for dropping the elusive "near cash" concept from the cash flow statement.

Another issue which needs cureful attention at this stage relates to cash flow classification. The practice currently being followed in classifying cash flows by activities is a good one, but there should be a clear specification as to how particular items of cash flows should be attributed to classes. The adoption by different enterprises of different practices in the matter of attributing cash flows to activities is likely to create problems for those who need comparable information. Arguments have been put forward from some quarters that the usefulness of the cash flow statement can enhance significantly if the cash flows aising from the operating activities of an enterprise are disclosed in the statement on a segmental basis. This is an issue which needs careful consideration.

Cash flow reporting has received a great deal of conceptual support. Efforts have now to be made to provide empirical evidence of its utility. The extent to which financial statements users find cash flow information useful cannot be established without sufficient empirical research backing. Capital market researchers in developed countries have already started initiating the process of conducting empirical research on the usefulness of cash flow reporting. The process has to be accentuated further.

References

American Institute of Certified Public Accountants (AICPA), *APB Opinion No. 3*, "The Statement of Source and Application of Funds", New York, 1963.

_____, *APB Opinion No. 19, "Reporting Changes in Financial Position", New York, 1971.*

_____, *Objectives of Financial Statements* New York, 1973.

[4] Statement issued by the ASB on publishing FRS 1. Quoted in Elliott and Elliott (1993, P.532).

Accounting Standards Board (ASB), *Statement of Principles, Chapter 1*, (Discussion Draft), London, 1991.

_____, *FRS 1*, "Cash Flow Statement", London, 1991.

_____, *FRED 10*, "Revision of FRS 1 (Cash Flow Statement)", London, 1996.

Accounting Standards Steering Committee (ASSC), *The Corporate Report*, London, 1975.

Australian Accounting Standards Board (AASB) *AAS 28*, "Statement of Cash Flows", 1991.

Bloom, R., and A. Debessay, *Inflation Accounting*, Prager Publishers, USA, 1984.

Canadian Institute of Chartered Accountants (CICA), *CICA Handbook*, Sec. 1540 (revised), 1985.

Carslaw, C.A. and J. R Mills, "Developing Ratios for Effective Cash Flow Statement Analysis", *Journal of Accountancy*, November, 1991, pp. 63-70.

Egginton, D., "In Defence of Profit Measurement : Some Limitations of Cash Flow and Value-Added as Performance Measures for External Reporting", *Accounting and Business Research*, Spring, 1984.

Elliott, B., and J. Elliott, *Financial Accounting and Reporting*, Prentice-Hall (UK) Ltd. 1993.

Financial Accounting Standards Board (FASB), *SFAC No. 1*, "Objectives of Financial Reporting by Business Enterprises", Stamford, Conn, 1978.

_____, *FASB Statement No. 95*, "Statement of Cash Flows", Stamford, Conn, 1987.

Hendriksen, E.S., and M.F.Van Breda, *Accounting Theory (5e), IRWIN, 1992.*

International Accounting Standards Committee (IASC), *IAS 7*, "Statement of Changes in Financial Position", London, 1977.

_____, *Framework for the Preparation and Presentation of Financial Statements*, London, 1989.

_____, *IAS 7* (revised) "Cash Flow Statement", London, 1992.

Institute of Chartered Accountants of India (ICAI), "Discussion Paper : Cash Flow Statement", Accounting Standards Board, 1995.

Lee, T.A., "Cash Flow Accounting and Corporate Financial Reportng", in Bromwich and Hopwood edited *British Accounting Research*, Pitman, 1981, pp. 63-78.

Perks, B., and G. Georgion, "Financial Reporting Standard (FRS) 1 : Fresh Start ?" *Management Accounting*, February, 1993.

Rosen, L. S. and D.T. DeCoster, "Funds Statement : A Historical Perspective", *Accounting Review*, January, 1969.

Thomas, A.L., "The Allocation Problem : Part Two, "*Studies in Accounting Research 9*, American Accounting Associaton, 1974.

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MACRO ACCOUNTING : A FRAMEWORK FOR GLOBALIZATION ERA

*M. B. Shukla**

In dealing with macro accounting, the author argues that it gives a picture in terms of balance sheet to incorporate the competitive strenghts and weaknesses of globalization efforts.

Macro economic policies are concerned with working of the economy as a whole. Macro system provides a base in which aggregate variables interact to generate particular levels of overall activity that is total output (income) and employment in the economy. The key variables are investment, savings, budgets, money, external trade and payments and, of course, prices. Prices should be taken to include not just commodity price but wages, interest rates, exchange rates and asset prices. Closely surrounding this core and often in-separable from it—is the question of how policy can or cannot modify the interactions and their outcomes to the desired degree and in the desired direction.

Thus, macro dimension presents a meaningful aggregation of the sub-system prevailing in an economy like sectors, markets and variables within a consistent accounting framework. This makes cause-effect relations discernible.

Economic reforms are already in their full swing. Sectoral reforms as well as macro dimensional reforms have been initiated to improve the productivity of factors involved in the process of economic development. As era of globalization unfolded in India, macro accounting is expected to develop accounting designs for a developing economy like India. It should furnish information required for policy formulation and essential impact and depict structural changes that take place over an era of globalization.

Here, it is the macro accounting process which can lay foundation to take up the challenges of globalization. Recently, while evaluating the world competitiveness of 49 countries World Economic Forum (WEF) has formulated a Balance Sheet model of Macro Accounting.

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Conceptual Framework

World Competitiveness Report defines competitiveness as "ability of a country to proportionally generate more wealth than its competitors in the market." Instead of restricting competitiveness to notions of GDP and productivity, the report has taken into account political, economic, socio-cultural, human and educational dimension of a country.

The eight factors of competitiveness are : domestic economic strength of a country, extent of internalisation of its trade, quality of human resources, scientific and technological capacity, quality of management cadres, level of development of infrastructure, level of performance of capital markets and financial services and nature of government policies.

Thus, with the help of these items—qualitative as well as quantitative —we can place the position of a country in terms of rank. So ranking of position held by a country is an indicator of performance with regard to the competitive strength of the country. Now we can use the macro accounting process to present the ranking of competitive strength of a country.

Macro Accounting Framework of Balance Sheet

The balance sheet of national competitiveness places GDP at constant price, cost of living, real growth in industrial production, likelihood of recession over next two years, capital goods, services and agriculture, growth in value of merchandise exports, export market diversification, adequacy of government economic policies, growth of a number of listed domestic companies and equal treatment of foreigners as some of the items or factors on the assets side.

Low GDP per capital, private final consumption expenditure, trade to GDP ratio, state interference in the economy, stock market capitalisation, protection of intellectual property rights, life expectancy at birth, brain drain and low expenditure on education are some of the factors or items which can be listed on the liability side.

Balance Sheet and India's Globalization Efforts

With the help of macro accounting approach, we can evaluate the globalization efforts of our country by ranking its achievements and failures in a balance sheet. Thus, balance sheet can be used as a tool to present macro picture of the globalization efforts.

Balance Sheet

Liabilities	Rank	Assets	Rank
GDP per Capita	48	GDP at Constant Price	11
GDP per Capita (Purchasing power parity)	47	Cost of living	8
Development of the Service Sector	41	Likelihood of recession over next two years	3
		Equal Treatment of Foreigners	11
Trade to GDP Ratio	45	Personal Income Tax	6
State Interference in the economy	41	Corporate Taxes	9
Flexibility of living and firing practices	47	Control of speculation by Central Bank	14
Access to Local Capital markets for foreigners	45	Electricity costs for industrial clients	9
Telecommunication infrastructure	43	Reward for risk-taking and individual initiative	5
Exploitation of Information	42	R & D Scientists and Engineers in Industry	9
Technology Protection of intellectual property	41	Availability of skilled labour	4
Human development index	47		

Thus, on the basis of above balance sheet, we can say that macro accounting approach presents a picture of India's competitive strength in clear terms--India is still considered a good place to invest. There is no threat of companies relocating their production facilities outside the country, as it enjoyed the advantage of being one of the largest markets in the world. However, Indian economy will continue to face inflationary pressures in the next 12 months.

High rate of population growth and thriving parallel economy are cited as other dampeners in the rapid growth of the Indian economy. As per the World Competitiveness Report-1995, India is ranked 39th among the most Competitive Countries in the World.

India's performance is especially low in infrastructure--one of the light criteria used by the forum to evaluate competitiveness of nations. It is also important to note that in the light of the huge Indian market and Government's commitment to liberalisation, Balance Sheet can be revised keeping in mind the expected changes in years to come.

Thus, macro accounting may be used in proper perspective. It develops a picture in terms of Balance Sheet to incorporate the competitive strengths and weaknesses of globalization efforts. However, there is an urgent need to quantify the strengths and weaknesses inherent in globalization efforts. Then we can hope a viable macro accounting for a developing country like India.

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A NOTE ON GLOBALIZATION OF TAX REFORMS : AN INTERNATIONAL TRADE PERSPECTIVE

*S. P. Kaushik**
V. K. Gupta†

The authors deal with pros and cons of globalization of tax reforms in India in the context of international trade and caution that the policies are a set of tools which should be used carefully.

1. Introduction

Important changes have been introduced in India to make International Trade favourable. These changes are made through economic reforms in the form of globalization of Indian Economy to globalize economic activities following policies were changed according to the need of the hour :

- Industrial Policy
- Trade Policy
- Foreign Investment Policy
- Taxation Policy
- Financial Policy
  - (a) Banking System
  - (b) Capital Market
- Fiscal Policy

In addition to changes in the policies some direct efforts were made like seeking membership of WTO, strengthening SAARC, visiting different countries of the world by the concerned ministers.

The Trade Policy of India has been made export-oriented. Some of the important features[1] are :

- Strategy formation to double exports in selected focus product group.

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- Electronic Data Interchange System (EDIS) for making available different information related to international business in India.
- Replacement of EXIMSCRIP with liberalised Exchange Management System (LEMS).
- Ensuring cost competitiveness.
- Creating appropriate production facilities for exports.
- Developing technology consciousness.
- Effective selectivity in export.
- Targeting a few strategic market.
- Strengthening bases in key countries.
- Making conditions favourable for foreign investment.
- Improving India's image in International Market.
- Liberalized import licensing.
- Reduction in custom duty.
- Freer assessibility of foreign technology of production.
- Signed as member of WTO.
- Expanding list of importable items under the Special Import Licences Scheme.
- Special Import Licences on payment of concessional rate of custom duty and financially more attractive for the items related to health care, sports, communication and office equipments.
- Creation of super trading houses, which will be the
  - (a) Membership of APEX Consultative Bodies concerned with trade policy and promotions.
  - (b) Representations in important business delegations.
  - (c) Special permission for overseas trading and.
  - (d) Special import licencing at enhanced rate.
- Import of second-hand machinery is allowed to actual user at normal duty without obtaining a licence, provided the second-hand capital goods have a minimum reduced life of five years.
- Negative list pruned in case of some items required for the manufacture of financial product.
- Efforts to develop effective infrastructure to provide industrial support to foreign trade.
- Institutional backup is also developed to promote foreign trade by reconstituting a Board of Trade on August 13, 1991, with an

object to provide a forum for ensuring continuous dialogue with trade and industry.

- Restructuring of Market Development of Funds to utilise in market research, product promotion and commodity development, export publicity, participation in trade fairs etc.

2. Tax Reforms

A number of suggestions have been given by Chelliah Committee appointed to study India's Tax Management. This Committee has submitted its report in two parts—Part I (in August 1982) and Part II (in January 1993). Part one of the report contains recommendations for comprehensive reforms in the area of corporate tax, tax administration and enforcement machinery. Part two of the report gives committee's final recommendations regarding restructuring and rationalisation of import duties for specific groups of industries and their phasing. This also deals with the restructuring of excise duties and review of exemption notifications in the import tariffs. Government considered the recommendations of the report and implemented the same in phased manner.

In brief, the following are the recommendations of Tax Reform Committee[2] :

1. Tariffs on finished goods should be higher than on basic raw material and these on components and machinery should be in between.
2. Agricultural imports should be subject to some import duty.
3. The import duty structure for 1997-98 (excluding CVD) should be a zero rate for essential agricultural goods, 10 percent for other agricultural goods (e.g. oil seeds etc.), 15 percent for tin, pig iron, aluminium and nickle, 20 percent for medical equiment, organic and inorganic chemicals, lead zinc and machinery, 25 percent for polymers, textiles fibres and yarns; 30 percent for articles of non-ferrous metals and of iron & steel; 50 percent for non-essential agricultural goods such as almonds and cashewnuts.
4. Central excise duties be restructured in the light of recommendations made in the Interim Report; three rate MODVAT regime at the manufacturing level at 10, 15 and 20 percent selective excise on non-essential commodities at 30, 40 and 50 percent.
5. Exemption of feasibility of collection of excise duty on cigarettes.
6. Exemption on MODVAT to textiles and petroleum products.
7. Excise duty on selected products at present exempted from excise.

In view of above recommendations, Dr. Manmohan Singh made the following changes by implementing budget proposals of Budget 1992-93[3]. These changes can be categorised with following two types :

(a) Changes in Import duty in 1992-93

The main changes are as under

1. Peak tariff level lowered to 110 percent.
2. Duty rate on project imports and general machinery reduced to 55 percent and in the case of electronic industry, to 50 percent.
3. Uniform import duty rate of 30 percent for capital goods for coal mining, petroleum refinery and power projects.
4. Import duty on other capital goods reduced by 10 per cent points.
5. Extension of concessional import duty of 80 percent to specific electronic components.
6. Import duty on 15 specified pesticides reduced from 110 percent to 75 percent and on two pesticides intermediates from 120 percent to 65 percent.
7. Full exemption from duty for oilseeds, seeds of vegetables, flowers, ornamental plants for the purpose of sowing and planting.
8. Full exemption for glazed newsprint, specified formulation of certain life saving drugs and medicines.
9. Import duty on propylene reduced from 120 percent to 80 percent on butadiene from 55 percent to 40 percent and a uniform duty of 40 percent for ethyl benzene and styrene.
10. Reduction in import duty on asbestos fibres, colour negatives of cinematographic film and raw silk.
11. Returning Indians allowed to import gold upto 5 kg. at a duty of Rs. 220 per 10 gms. (approximately 3 percent).
12. Import duty on computer and computers peripherals raised to 10 percent.

(b) Changes in Excise Duties in 1992-93

The main changes are as follows

1. Switchover from specific rates to a uniform 10 percent ad valorem duty on copper, lead, zinc, iron and product thereof.
2. Number of rates for cotton yarn reduced to five slabs.
3. Full exemption from excise duty on bricks and tiles with a minimum context of 25% of red mud, light weight concrete building blocks, doors and windows made of plastic, iron steel, and jute yarn in hanks and jute products manufactured in rural areas by registered cooperative societies.

4. Full exemption from excise duty on insulated thermoware, vacuum flasks, specified soya products and candles for water filter.
5. Full exemption of duty on specified pesticides intermediates.
6. Excise duty on nylon filaments yarn and polyester filament yarn reduced.
7. Special excise duty raised from 10 percent to 15 percent on all goods except motor cars, TVs and petroleum products.
8. Excise duties increased on cigarettes, cement, steel, tires, two wheelers, viscose fibre, acrylic fibre, filament yarn, coca plastic resins, paints and watches.
9. Increase in excise duty on pig iron, iron forgings, steel ingots.

The above stated changes continued till date to enrich the policy of economic globalization. In the budget speech 1995-96, Dr Manmohan Singh mentioned "Reforms in the areas of taxation, trade and industrial policies and the financial sector have yielded good results. They need to be completed as planned, so as to enhance the efficiency and competitiveness of our economy".[4] One can conclude from above facts that introduction of tax reforms was a stating point towards globalization of tax policy.

3. Globalization of Tax Reforms & Budget Proposals of 1995-96[5]

Over the past three years, the government have made a number of structural changes in Indian Tax system. These efforts were made to modify the tax system and to build a simple tax structure having lesser magnitude of tax rate and wider collections of tax. Few steps taken as per budget 1995-96 are as follows :

(a) Import Duty

- Peak rate of import duty reduced from 65% to 50%.
- Import duty on capital goods like generating sets & weighing machinery is lowered to 25%.
- Import duty on machine tool is lowered from 45% to 25%.
- Interchangeable electronic component used in auto industry will also be levied 25% of import duty.
- Goods used for quality control will be levied import duty 25% rather than previous rate of 40%.
- Import duty on metals reduced from 65% to 35%,
- Import duty on synthetic fibres and filaments yarn reduced to 45% ad valorem.

- The duty on LPG is also reduced from 15% to 10%..
- Import duty on optical fibres lowered from 40% to 35%.
- Reduction in import duty of the implements and their parts used in life saving treatment lowered to 15% while total exemption in case of implements and parts used for cancer treatment.
- Paper's import duty reduced to 65% to 40%.
- Export duty abolished on finished leather.
- Increase on import duty on Malt & Starch 10% to 30%, that on silk cocoon from 30% to 40% and on olopine resins from 10% to 20% to protect some industries.
- Reduction in import duty on certain drugs used in Poultry and Fishing industry.

(b) *Excise Duty*

- Excise duty on plastic product reduced from 30% to 25%.
- Uniform excise duty on all metals reduced to 15% only.
- Uniform excise duty on parts of capital goods lowered from 25% to 15%.
- Concessional rate of excise on glassware produced by labour intensive match blown process lowered from 20% to 10%.
- Reduction in excise duty on polyester filament yarn from 68% to 57.5%.
- Items of china and porcelain will have only 15% excise duty in place of 30%.
- SSI exemption scheme raised from Rs. 2 crores to Rs. 3 crores.
- Relaxations were allowed in Modvat Rules.
- Modvat system is also extended to tyre yarn, industrial fibres.
- Increase in excise duty on cigarette by 7%.
- Amendments were made in custom Act/Excise Act/Customers Tariffs.

4. Impact of globalisation policies on Indian Foreign Trade

The impact of globalization policies on Indian Foreign Trade may lead to two dimensional effect on economy. On the basis of performance of last three successive financial years we can divide these effects into two categories — favourable and unfavourable.

(a) *Favourable Outcomes of Globalization Policies*

One cannot deny the fact that in spite of social and political disturbances in the country, the globalization policies have yielded many positive outcomes. This can be evidenced from the following table of Macro Economic indicators related to international trade in India.

Table 1

*Macro Indicators Related to International Economics of India**

in million $

Parameters	1991-92	1992-93	1993-94	1994-95(P)
Imports	19411	21882	21084	22192
Exports	17865	18537	20898	22973
Trade Volume (Imp + Exp)	37276	40419	41960	45187
Trade Volume	–1546	–2245	–188	783
Balance of Payment	–2794	–560	–868	–285
Forex Reserves	9220	9832	19254	21842
Foreign Investments	154.53	260.76	585.76	711.90
External Debts	75857	89986	90630	80000

* *Anticipated value on the basis of performance till October 1994. (P)–Provisional Value.*

The trends are :

- Import shows nearly stagnated growth rate.
- Export growth rate has increased by 20 percent nearly.
- Trade balance is reduced continuously when it is compared with trade volume.
- Magnitude of adverse situation in BOP is reducing day by day.
- Forex reserves are increasing satisfactorily.
- Foreign investment in the country is increasing significantly
- Growth of external debt is checked by premature payments of external debts.

In addition to the above, the following are some general improvements in Indian Foreign Trade.

- Search and operation in new foreign markets is really a good achievement.
- Liberal norms for importing Gold and Silver and introduction of gold bond scheme has certainly increased Gold Stock of Reserve Bank of India in a significant manner. Secondly, it is also providing stability to price of precious metals in Indian domestic markets by converting black gold into white gold.
- Convertibility of rupee made access of foreign technology more freer.
- Recent performance of India's Foreign Trade has successfully generated confidence of the foreign countries in India's business operations.

On the basis of the above discussion one can conclude that there is definite improvement in overall Indian economic scenario.

(b) Unfavourable Possible outcomes of globalization policies

If the present situation of economic environment of India is considered, it would be very easy to forecast the following possible adverse effects on Indian Foreign trade.

1. Reduction in subsidies will reduce the protection of undeveloped economic sector, which may lead to decrease in the total growth in near future, specially the production of export potent goods. These products are from subsidy effected areas like agriculture, cottage industries etc.
2. The making of economic environment more open may increase incoming of most efficient MNCs in India. These MNCs may dominate economic environment of the country. Secondly, it may also lead to undesirable competitive environment in domestic market.
3. Although in first two years of globalization policies there was significant reduction in inflation rate and fiscal deficit, the present situation is an evidence of going things out of control. Increase in price may affect the performance in foreign market also.
4. Unstable social environment and deteriorating law and order situations are the two key factors that undermine the economic confidence and efficiency of a country. Unfortunately, India is hit by both. Therefore, there are chances that we might be in a tight position in near future. It may reduce performance of our industrial sector. Secondly, it will also reduce the inflow of foreign investment in our country.
5. Increase in inflow of hard currency is also increasing liabilities on our economy. If we are unable to use these resources properly, then we might face a difficulty at the time of maturity of these liabilities. This situation may repeat the incidence of June 1991.
6. Full convertibility of rupee is a bold step in right direction, but it may create problems if close observation on demand and supply of currency is not kept. Demand and supply of forces of money market may increase demand of rupee in international market which may generate threat for Indian economy.
7. Attitude of Indian entrepreneurship regarding the quality of product to be supplied in international market may create wrong impression on importers of Indian goods. As Indian entrepreneurs are habitual of adopting short cut method to enhance their exports.

8. Lack of TQM and lack of awareness of ISO 9000 norms in Indian industry may lead to produce sub-standard product. Therefore, we may be placed far behind in earning foreign currency in the long run and we may be kept out of competition in international market.
9. In spite of many efforts we could not make international trade favourable. Therefore, earning of loss continuously may adversely affect the capital assets of the country. Ultimately, it will affect performance of foreign trade.
10. High burden of foreign debt is also a key element to be taken care. Paying debt before maturity by increasing external liability in the form of foreign investment and NRI deposits, may lead scarcity of foreign currency in future. This can also affect Indian industry adversely.

5. Conclusion

On the basis of the above discussion it can be concluded that globalization policies are a set of tools to improve the Indian foreign trade performance. But, it can also damage the economic scenario if it is not used carefully. Hence the following points are to be taken care of :

- Motivate Indian entrepreneurs to adopt philosophy of TQM, so that they can produce standard product to sell in international market.
- Enhance research and development programmes in international trade area. Create environment to implement innovative and creative findings of these studies/programmes.
- Although we have made our economic environment global and transparent, even then more openness and transparency of economic environment is required to generate competitive forces in Indian business.
- Adopt latest technology of production to improve the quality and to reduce the cost of product.
- Enhance philosophy to improve and promote Indian product in international market by using innovative methods of marketing.

References

"Exporter's manual", A Nabhi Publication, New Delhi, September 1994, p.200.

"Economic Survey 1992-93". *The Economic Times,* New Delhi, February 24, 1993.

"Budget 1992-93", *The Economic Times,* New Delhi, February, 1993.

Dr. Man Mohan Singh's Budget Speech 1995-96, Part A, *The Times of India,* New Delhi, March 16, 1995.

"Budget 1995-96", Part – B, *The Economic Times,* New Delhi, March 16, 1995.

"Discussion Paper on Policy Documents", Government of India Publication, 1995.

BOOK REVIEW

CRITIQUE OF ACCOUNTING : EXAMINATION OF THE FOUNDATIONS AND NORMATIVE STRUCTURE OF AN APPLIED DISCIPLINE, Richard Mattessich, Quorum Books, Westpart, Connecticut, Sept. 1995, pp. 284, price US $ 65

The instant research volume is based on the author's previous publications which were updated and integrated to convey "a picture richer and more coherent than a glance at individual fragments can afford".

The volume is divided into 12 well written chapters. Chapter 1, dealing with Introduction, lays down the foundations. It explains the term "critique", i.e., Kautian sense of critically examining the extent to which a discipline can represent the pertinent reality, highlights the problems and expectations, crisis in financial accounting and then outlines the organisation of the book. The author rightly cautions that "the importance of our discipline lies in its function as a cybernetic mechanism that preserves confidence in the trustees of public and private resources and financial markets no less than in the entire economic system" (p.2). According to the author, the present crisis of accounting has three major components in addition to those identified by others : legislative and social crisis, moral and spiritual crisis and academic crisis.

In Chapter 2 the author deals with "The Historic and Cultural Mission of Accounting". He explores the earliest beginnings of accounting as a discipline and sketches well its role in the subsequent periods. He explains well the answers for many relevant questions such as : Did accounting not have from the very beginning important *practical purposes* such as monitoring stewardship and presenting legal evidence ? Has not this *purpose* orientation in the service of control and accountability endured for thousands of years ?

Chapter 3 examines whether income and owners' equity are mere concepts or they are empirical phenomena. The author here analyses and clarifies the fundamental issues about the physical as well as social reality of accounting. This chapter tries to show which types of accounting variables are nothing but concepts and which are backed by real things and facts. This is followed by "Foundational and Conceptual Issues" and "Formalisation and Information" in Chapters 4 and 5 respectively. Chapter 4 begins by looking at major changes of accountancy since its academisation more than 100 years ago. The main focus is on the "adolescent years" (since the 1950s) and the forces behind those changes. It also examines several foundational issues, terminological and conceptual difficulties as well as adaption of scientific methods to

accounting. In chapter 5 the author examines past endeavours to explore the foundation of accounting by postulational and axiomatic means.

The author deals with "Valuation Models, Capital Maintenance, and Instrumental Hypotheses" in Chapter 6. Chapter 7 pivots on the new notion of "theory", which emerged relatively recently in what is called the post-Kuhnian era. Chapter 8 offers an overview of recent trends in accounting research. The author tries to show that it is possible to distinguish different research traditions in accounting. Then he makes a discussion of "Research Traditions of Accounting" in Chapter 9. Here he argues that positive accounting theory is foremost a methodology and hardly covers empirical accounting research in general. It examines the criticism and limitations of positive accounting theory.

Chapter 10, while dealing with "Normative Accounting and the Critical Interpretive School", examines in detail early German Ethical Normative Theories, Pragmatic-formative theories end the Behavioural-Organisational Direction. It then stresses the need for a methodology that not only classifies different accounting objectives but also reveals the means of attaining those needs.

Chapter 11 contains the major message of the book based on the investigations in this and preceding chapters. The author tries to give answers in this chapter to several questions such as : What is the significance of means and relations for accounting ? What alternatives do accountants have in dealing with value judgments ? What are the arguments in favour of regarding academic accounting as an applied science ? In what way can accounting models, "tailor-made" or "customerised" for individual needs, be considered objective ? Why is there a need for more attention to the great variety of accounting objectives and their hierarchy ? How and to what extent does accounting practice represent reality, and can the gap between this pragmatic representation and positive representation be explained ?

Chapter 12 contains "summary and conclusion". In short, apart from examining a number of basic concepts and relations in the instant publication, the author has presented arguments and evidence in support of the following main hypotheses : (1) There is a fundamental difference between, on one side, the economics (and sociology) of accounting, which may be positive, and, on the other side, accounting as an applied science. The latter can be understood only from a conditional-normative point of view and is academically not *negative* but has its criteria of objectivity no less than any other science. (2) Economics of accounting alone cannot explain the rationality of accounting practice. To elucidate the gap between the positive representation and the pragmatic representation of economic transactions requires an analysis and comprehension of the pertinent value judgments and means-end relations that are sandwiched between those two modes of representation. (3) To find a solution to the dilemma

of academic accounting, the hierarchy of accounting objectives must be clarified; norms must be incorporated as conditional premises into accounting models and theories; and means-end relations must be formulated and empirically tested—not unlike ordinary cause-and-effect relations being tested in the pure sciences" (p.222).

In summary, this research volume should be of interest to accounting academics and professionals who are interested in 'foundations and normative structure of an applied discipline'. The twelve chapters, as mentioned above, cover the necessary subject matter thoroughly and allow for raising many pertinent questions which may be taken up for further research. Yet the author has a very simple style of presentation. The entire volume provides an interactive learning environment. References added at the end will be of immense help to interested researchers.

The author has been well known for his scholastic contributions to the accounting literature during the last few decades. He has maintained his tradition in this volume too. This volume should, therefore, be a valuable resource in every library.

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KULSHRESTHA ON ACCOUNTING

Compiled by M. B. Shukla, *Indian Accounting Association, Varanasi Branch*, 1996, xvi + 288 pp.; Price : Rs. 200/-; $100

H.S. Kulshrestha is one of the few doyens in the field of Accounting Education and Research in India. His contributions focus our attention to the varied aspects of accounting over the last four decades.

The present book is a compilation of 22 articles written by H.S. Kulshrestha and published in different journals in India. The first one of these articles titled 'Nature and Scope of Accounting' is a joint paper with S.K.R. Bhandari. The authors in this article clearly distinguish between book-keeping, accountancy and accounting. In the process they traced out the origin of accounting from the days of Kautilya to the era of emergence of double entry system and its post-birth developments over the years (pp. 12-16). Applied relationship of accounting with other related areas like economics, mathematics, engineering, law, psychology, and management has also been dealt with in this article. The second article is on 'Accounting as a Social Science' (pp. 51-61). In this article the author candidly states that there is no doubt that the society, for its welfare, will have to depend on the accountant so as to have 'more and better information about the financial facts of life' (pp. 55). In the third article, 'Educational Import of Accounting', the author points out that one

may be a rational thinker even without studying accounting. But normally it is expected that an individual trained in accounting will be more awakened to reason and justice. In 'Birds of Wisdom—Their Relevance to Students of Business', Kulshrestha discussed the characteristics of two birds of wisdom to bring out their relevance of students of business. In the 5th article, 'The Inventors of Modern Accounting', the author points out that India has a long tradition of inventions and discoveries which has been well maintained in the field of accounting also.

Conceptual framework is an orderly and systematic assembly of various concepts and principles arranged and interlinked in such a way that the image of the subject concerned is outlined in its totality. This is the message of 6th article titled 'Conceptual Framework of Accounting'. In the seventh article titled 'Definition of Transaction in Accounting'. Kulshrestha holds the view that transaction means movement of value between two accounting entities, where accounting entities include a person or a group of persons, a denomination or form of property, an activity or a sub-activity, a function or project, a source of revenue or a head of expenditure, a period or a venture, etc. for which an account is desired to be maintained. In this perspective, in the 8th article, 'Entity Principle of Accounting', Kulshrestha makes an analytical study of the entity principle of accounting and its utilisation for the over-all benefit of the accounting unit and management. The 9th article included in the book is on 'Errors and Their Correction in Accounts' (pp. 112-121) wherein a scientific methodology has been discussed for correction of errors in accounting.

Turning to the concept of profit as viewed by an accountant and the economist, the 10th article of the volume titled 'Accounting and Economic Concepts of Profit' throws some light on these differences. It also stretches the need for narrowing down the gap between the two. Modern management makes an extensive use of accounting information. In this context, the 11th article of the volume, 'Accounting Principles and the Management', deals with accounting principles and management.

Financial statements "are as essential to the operation and control of a business as the barometer, compass, and charts to the successful navigation of a ship" (p. 142). Well-drawn financial statements enable the management to formulate effective policies for a successful running of the business. This is the message conveyed in the 12th article titled 'Form of Financial Statements as an Aid to Their Interpretation'. One of the various influences which American practices have had on the accounting ideas is the increased use and importance of the Profit and Loss Account as compared to the Balance Sheet (p. 166). The 13th article under the title 'Profit and Loss Account vs. Balance Sheet' provides a comparative study on Profit and Loss Account and Balance Sheet. Similarly, in the 14th article, 'Logic of the Balance Sheet', Kulshrestha

states that Balance Sheet is the beginning and the end of accounting cycle. In 'Flow of Funds–How to Measure and Interpret' (pp. 189-213) the author deals with a number of relevant issues. The 16th in the series being on 'Concepts and Components of Working Capital' the author holds, among others, the view that clarity about the concept of current assets and current liabilities is a prerequisite for an appreciation of any discourse on the components and comparative relevance and significance of the concept of working capital.

In the 17th article, 'Gearing of Capital as a Function of Financial Management', Kulshrestha tries to examine critically the process and significance of capital gearing which is an important device in the hands of financial manager to maximise the wealth of his owners. The next article on 'A Scientific Treatment of Discounts in Accounts' provides a scientific treatment of discounts in accounts. In article 19 under the caption 'Direct Costing Versus Margianl Costing', a careful examination of the propriety and justification of the assumptions of direct costing and marginal costing and necessary distinction between them has been made. An attempt has been mace in article 20, 'Concept of Realisation in Accounting', to discuss the concept of realisation in accounting with logical, general and wider connotation of the term.

In article 21 under the title 'Profitability in Public Enterprises— A New Challenge' the author points out that it is not the inadequacy or otherwise, but the very determination of this profitability poses a challenge to the subject (p. 266). Here the author also evaluates the practical relevance of accounting information in the context of profitability of public enterprises. The last article titled 'Postmortem of a Business' deals with the Postmortem of a business through the accounting information. Diagnosis and identification of issues leading to failure of a business are the subject of discussion of this article.

The commemorative volume, it is hoped, will provide a case for lively dialogue on a number of serious issues concerning accounting as a distinct branch of social science. There can be no doubt that articles contained in this volume will serve as the gateway to further deliberations and research on the subject. The style is simple and lucid, presentation of the subject is orderly and systematic and comments are illuminating and thought-provoking. In the context of today's Indian economy, the price tag is reasonable. But addition of an index, we feel, would have helped substantially the researchers on the subject.

M.B. Shukla, a worthy student of the author, deserves praise for his illustrious venture.

J. B. Sarker
University of Burdwan

ACCOUNTING EDUCATION, N. M. Singhvi, *RBSA* Publishers, S.M.S. Highway, Jaipur, pp. 128

Accounting Education by N. M. Singhvi is an addition to the scanty literature on the subject. It contains five chapters written in its own style. Chapter 1, in dealing Challenges in Accounting Education, outlines the historical perspective of accounting education. In particular, it touches upon Indian tradition and culture because 'the profundity of Indian traditions and thought has the potentiality to excite interest and unity even at the global level, as the parameters of Indian traditions are intellectual which alone move the wheels of human progress" (p.4). In chapter 2, the author argues that there are "references regarding book-keeping in ancient India, but we could not find a separate printed work on book-keeping earlier than that of Luca Pacioli" (p. 34). A further detailed analysis based on authentic materials would have enhanced the merit of the book.

Accounting Education in Going Back to the Future (Chapter 3) mainly deals with a comparative study of the course curriculum in commerce since 1940 to outline the changes in Pre-University, B.Com. and M.Com. courses of Rajasthan University. The author gives his arguments (p.40) for selecting only this University for the purpose of his study. But such arguments may be equally valid for other 'lead' universities in the country. Chapters 4 and 5 deal with Graduate Programme and Master in Financial Analysis respectively. While Appendix I (pp. 99-104) contains 'A guide to Integrating Accounting History into the Accounting Curriculum', Appendix II (pp.105-128) gives details of a few post-graduate programmes in management courses.

The presentation of the book is lucid. The readers may find it interesting. However, coverage is inadequate. For example, some aspects of accounting research should have been included. In most cases (chapters 3, 4 and 5), references are incomplete. There is also no index.

J. B. Sarker
University of Burdwan

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. Professor Adolf J.H. Enthoven, Director, Centre for International Accounting Development, The University of Texas at Dallas, and Professor Andrew D. Bailey, Jr., Head, Department of Accountancy, University of Illinois at Urbana-Champaign and Past President, American Accounting Association, have kindly confirmed their availability as **keynote speakers**. Professor Belverd E. Needles, Jr., Secretary/Treasurer, International Association for Accounting Education and Research and Ernst and Young Professor of Accounting, DePaul University, Chicago, Professor Bikki Jaggi, Chairperson, Department of Accounting, Rutgers University, New Brunswick, Professor Rajendra P. Srivastava, Director, Centre for Auditing Research and Advanced Technology, University of Kansas, U.S.A., Professor Patrick Hutchinson, Dean, Faculty of Economics, Business & Law, University of New England, Australia, Professor Mohan Lal, Masey University, New Zealand, and many other distinguished academics from the U.S.A., U.K., Australia, New Zealand, Singapore, Bangladesh and Pakistan are expected to grace the occasion.

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. Authors must also name the major topic(s) under which their paper falls. No submission by fax will be accepted.
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 September 30, 1996.** Notification about the decision will be made by **October 31, 1996.** These dates will not be extended under any circumstances.

Delegates Fees

The delegate fees have been fixed as follows :

	Without accommodation (per head) Rs.	With accommodation (per head) Rs.
From SAARC Countries (other than India)	500	750
From India :		
Corporate delegate (sponsored)	2,000	—
Individuals :		
Members of the Research Foundation	300	500
Non-members	400	600

Delegate fee covers breakfasts, luncheons, dinners, transport and copy of conference proceedings. It is payable in draft in favour of IAA Research Foundation (Conference A/c) and should be received by **November 30, 1996**.

Accommodation etc.

A limited number of rooms will be booked in the State and other Guest Houses for delegates on a double sharing basis. Outstation delegates can avail of accommodation on a "first come first served" basis.

A dinner for the delegates will be arranged on January 4, 1997 at Calcutta Club or other suitable place. A Cultural Programme will also be organised on January 5, 1997 from 6 p.m. to 7-30 p.m. Send your paper, request for accommodaton etc. to :

Mr G. P. Agrawal
Conference Secretary
G.P. Agrawal & Co.
Chartered Accountants
7A, Kiran Shankar Roy Road
Calcutta 700 001
(Fax No. 91-33-248-6814)

INTERNATIONAL ASSOCIATION FOR ACCOUNTING EDUCATION AND RESEARCH (IAAER)

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

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 entertainments in the world.

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

* Comparative Accounting Systems
* Managerial Accounting in Multinational Corporations
* Cultural Influences on Accounting
* International Accounting Harmonization
* Impact of International Accounting Differences
* Stock Markets and Accounting Diversity
* Comparative Auditing Systems
* International Financial Reporting Issues
* Accounting and the Environment
* Accounting Education in Developing Countries
* Accounting Education in Changing Economies
* Implementing Advanced Technologies in Accounting Education.
* New Curricula in Accounting Education
* Teaching Innovation in Accounting Education
* Information Technologies in Accounting Education

CALL FOR PAPERS

Rules for Manuscript Submission

1. Papers must be written in English.
2. Authors must list the major topic(s) under which their paper falls in the registration of interest form.
3. Papers must not have been published or accepted for publication elsewhere.

4. Each paper must contain a title with all coauthors listed and an abstract. To facilitate blind reviews do not identify authors after the cover page.
5. The abstract should be presented uniformly 81/2 x 11 for (or A4) typed, single-spaced 10 point maximum of 400 words, headed by title, author(s) and affiliation(s).
6. Paper must be typed, double spaced, Helvetica, New York, Palatino or Times, 12-point, and between fifteen and twenty pages long. Footnotes should be stated on a separate page and be included in the total page length indicated.
7. Margins are to be 1-1/2 inches (or 2.5-3 cm.) left margin, 3/4 of an inch (or 2 cm.) right margin and 1 inch (or 2.5 cm.) for the top and bottom.
8. Papers must be **received** for review **by December 31, 1996.** Earlier submission is encouraged. Received papers will be acknowledged. Abstracts of paper, without the full paper, will also be considered but priority will be given to complete papers.
9. Three copies of the papers (or abstracts) must be submitted. No submission by fax will be accepted.
10. Authors will be **notified** decision **by February 28, 1997**. A final version of the accepted papers must be submitted in the specified format by March 31, 1997. Further instructions will be given to authors of accepted papers. All abstracts will be published in the proceedings.
11. At least one author of accepted papers must register for the conference in order for the paper to appear in the proceedings.

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

All submission should be made to :

Professor Jean-Claudei Scheid
INTEC-CNAM
292 rue Saint-Martin
75141 PARIS CEDEX, 03, FRANCE
Fax : (33–1) 42 71 6701
Internet (E. mail) : burlaud@cnam. fr.

REGISTRATION OF INTEREST

I would like to participate in the Eighth International Conference on Accounting Education and Research and :

_____	Submit a paper	_____	Discussant in a session
_____	Review papers	_____	Attend only
_____	Chair a session		

If you submit a paper indicate the topic in which it will fall (see p. 95 for details) _____

Name _____

Address _____

_____

City _____

State / Province _____

Country _____

Postal Code _____

Telephone (with Area Code) _____

Fax _____

E-mail _____

Mail your Registration of Interest to :
IAAER–APC Congress 1997
Professor Jean-Claude SCHEID
INTEC
292, Rue Saint-Martin
75141 PARIS, CEDEX 03
Fax : (33-1) 42716701
Internet (E-mail) : burlaud@cnam. fr

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
Fax : (209) 278-7336
E-mail : ali peyvandi @csu fresno.edu or
benjamin tai @csu fresno.edu

Annual General Meeting Notice

The Annual General Meeting of the Indian Accounting Association (IAA) will be held at the venue of the 20th Annual Conference of IAA, at the Department of Commerce, Goa University, Goa, on 3rd February 1997 at 4 pm under the chairmanship of Prof. K. R. Sharma, the President of IAA. Members are requested to kindly attend the meeting.

Agenda :

1. Confirmation of the Minutes of the AGM held at Ujjain.
2. Consideration of Annual Accounts of IAA.
3. Election of office-bearers and members as per the Constitution.
4. Approval of the Topics for the 21st Annual Conference.
5. Consideration of proposals for holding next Annual Conference.
6. Any other item/items with the permission of the Chair.

PROF. D. PRABHAKARA RAO
General Secretary, IAA

June 12, 1996

IAA ANNOUNCEMENTS, REPORTS ETC.

IAA Invites Proposals for Young Researcher Award

The Indian Accounting Association (IAA) invites research proposals on research works done during the last five years in the area of Accounting by persons of not more than 35 years of age as on 31.12.1995, for consideration for the **Young Research Award.** The last date for submission of proposals is 30.11. 96 to the undersigned.

Prof. D. Prabhakara Rao
General Secretary–IAA
2 Shanmukha Apartments
China Waltair
Visakhapatnam-530 017.

IAA Invites Proposals for Best Published Annual Accounts

The Indian Accounting Association (IAA) invites proposals for **Best Published Annual Accounts** from Companies and Non-Profit organisations on or before 30.11.1996 to the undersigned. The Annual Accounts should be for the year ending 31.3.1996.

Prof. D. Prabhakara Rao
General Secretary-IAA
2 Shanmukha Apartments
China Waltair
Visakhapatnam-530 017.

XX Annual Conference of IAA

The XX Annual Conference of the Indian Accounting Association will be held under the auspices of the Goa Branch of IAA and the Dept. of Commerce, Goa University, at Goa on 2 and 3 February, 1997. There will be three technical sessions as mentioned below :

Technical Session–I	**Globalisation of Business & Accounting** Chairman : Prof. J. N. Shukla, Department of Commerce, Luknow University
Technical Session–II	**Camparative Tax Systems** Chairman : Prof. Bhagwathi Prasad, former Director, Kausahali Inst. of Management, Dharwad
Technical Session–III	**Accounting Education & Research with reference to Govt. Accounting and Audit** Chairman : Prof. N. M. Khandelwal, Dean & Director, MDS University, Ajmer.

Papers are invited for presentation at the above conference. Each contributor should submit three copies of the full paper typed in double space along with an abstract in not more than 200 words. The **last date** for submission is **November 30, 1996**. Papers may be submitted to :

Dr. B. Ramesh
Conference Secretary
XX Accounting Conference of IAA
Dept. of Commerce, Goa University
Bombolim, Goa-403 203

Prof. D. Prabhakara Rao
General Secretary, IAA
2 Shanmukha Apartments
China Waltair
Visakhapatnam 530 017
Ph. 0891-555538

Report on standard setting in India submitted by the Accounting Standards Committee appointed by the Indian Accounting Association

The Committee carried out its work through correspondence and personal discussions. The following recommendations were approved by the General Body of the IAA :

1. The present organisation, set up and procedure adopted in India for formulation of Accounting Standards was reviewed.

The Committee is of the firm view that the approach being adopted by the Accounting Standards Board at present is lacking in objectivity, credibility and independence. The Institute of Chartered Accountants of India has set up the Accounting Standards Board which also functions under the overall control of the Institute.

The Committee recommends that the organizational set up of the Accounting Standards Board be developed on the lines of U.S. Financial Accounting Standards Board (FASB). Such a Board should be sponsored by SEBI in consultation with Public Financial Institutions, Indian Accounting Association, Associations of Business and Industry, All India Management Association and other users and interest groups. It should consist of members drawn from accounting academics, accounting practitioners, corporate executives, public interest groups etc.

The Committee has taken a note of the recent move in India to bring the formulation of Accounting Standards under the control of the Government. The Committee is of the firm view that the Government should not abrogate public domain in a market driven economy poised to globalise. The present move will lead to more complications as the machinery with the government is ill-equipped to do this highly professional work.

The Committee recommends as follows :

"Accounting Standards setting process by Accounting Standards Board is less than transparent and devoid of serious public debate. In a market driven economy seeking to network with the world at large, Government should not be charged with the job of formulation of Accounting Standards and abrogate public domain. It is proposed that the Accounting Standards Board be set up independently, preferably on the lines of US-FASB. SEBI be empowered to set up the Accounting Standards Board. The membership of Accounting Standards Board should include all interest groups including accounting academicians and the researchers."

The Committee considered various research findings on the quality of Indian Accounting Standards. It is of the view that the absence of mandatory accounting standards for depreciation accounting and inventory valuation leaves ample scope for accounting manipulations and affects public interest adversely. The Committee, therefore, recommends that a Committee of Indian Accounting Association should mobilise public opinion for the mandatory implementation of these Standards in the country. The remaining 11 accounting standards are also deficient in several respects. These should also be critically evaluated by the above Committee and improvements should be suggested. The variety of methods/bases be reduced and preferred accounting practices be indicated in the Standards.

The Committee noted several gaps in accounting standards, where it would like the Indian Accounting Association to take initiative to fill up the gaps. These are Inflation Accounting, Human Resource Accounting, Social Responsibility Accounting, etc. The Indian Accounting Association should take up the development and propagate these accounting standards as part of its research activity.

The Accounting Standards Committee of The Indian Accounting Association should be made a permanent Committee of IAA to undertake this job of great social relevance. The Committee should be authorised by the General Body of IAA to undertake publicity, correspondence with the SEBI, Government and other organisations to achieve its objectives.

OBITUARY

Professor S. N. Mehrotra, a member of the Indian Accounting Association and Chairman of the Varanasi Branch of the IAA, died on 3rd April, 1996, at his native house at Banaras.

Professor Mehrotra, born and educated at Banaras, joined the Department of Commerce, Gauhati University, as a lecturer in fifties and became Professor, Head and Dean over time. After rendering services for about 24 years he left Gauhati University in 1978 to join Banaras Hindu University as a Professor of Commerce.

A doyen of commerce, Dr. Mehrotra specialised himself in the area of personnel management, labour relations and accounting and authored one book on 'Labour Relations in India' and numerous articles. He supervised many doctoral students in Gauhati and Banaras.

Professor Mehrotra served as a panel member (commerce) of the University Grants Commission for long and till death was a UGC nominee in the DSA Programme (in Commerce) at the University of Calcutta. He was associated with a large number of universities in different states in India as a member of the selection committee in commerce. His death is a great loss to the academic community in India.

The Members of the IAA condole the sad and sudden demise of Professor S. N. Mehrotra 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 abode.

Prof. N. Vinayakam, Head, Department of Commerce, Madras University Post Graduate Extension Centre at Salem, died on 13th December 1995. He was an Executive Member of the Indian Accounting Association. Dr. Vinayakam played a decisive role in forming the Salem Branch of IAA.

The members of the IAA condole the sad and sudden demise of Dr. Vinayakam and do not find words to express their deep sympathy to Mrs. Pushpa Vinayakam and other members of the family.

May his soul rest in eternal peace.

Report of Seminar Session on "Accounting Education and Research : Challenges for 21st Century"

Rapporteurs

Dr. G. Soral & Dr. V. K. Vasal
M. L. Sukhadia University, Udaipur
University of Delhi, Delhi

This session was chaired by Prof. R. P. Srivastava of Kansas University, USA and Key Speaker in the session was Prof. M. L. Kothari, Director, Prestige Institute of Management and Research, Indore. Dr. Deepak Gupta of Ujjain was co-ordinator of the session.

Prof. Kothari in his key-note speech gave an overview of history of accounting. He mentioned that the subject had no longer remained an art and computers had revolutionized the accounting practices. He commented on the tremendous contribution of the United States to the subject over last fifty years and of the existence of a distinct American School of Accounting. He came up with several suggestions such as publication of bibliography, identification of areas of research by organizing workshops etc. involving Trade, Industry, Govt. and Professional institutes in development of generally accepted accounting practices, and encouraging accounting innovations by medals, awards, etc.

Sri Harijiban Banerjee, President of the Institute of Cost and Works Accountants of India, in his speech called for planning for accounting for tomorrow. He stressed the need for more co-ordination between the professional institutes and the universities for improvement of accounting education and hoped that Indian Accounting Association can play a significant role in this context.

This was followed by paper presentations. At the outset, Dr. J. K. Panda and Shri S. C. Sahu presented their case study on Housing Development Finance Corporation and came up with the finding that proportionate allotment system discourages small investors. Dr. J. K. Panda and Mrs. Tripathy then presented their paper entitled "Equipment Leasing : a dynamic instrument of financing". Dr. H. J. Shukla of Halvad and Dr. V. K. Bhutsana of Rajkot while presenting their paper on "Accounting Education in 21st century" made suggestions to include social and behavioural aspects of accounting in the curricula and to reduce number of students per class. Dr. P. S. Chauhan of Saurashtra University, Rajkot, stressed on the need of training of teachers and global use of accounting standards. Dr. V. K. Gupta and Dr. S. P. Kaushik of DEI Dayalbagh, Agra, highlighted the issues related with accounting research and called for TQM based research process, useful research

output, cost-effectiveness in research etc. Dr. Kaushik Bhatt of Tolani Institute of Management Studies, Adipur, identified certain key areas for improvement in accounting education and research such as conceptual stress in teaching, new areas for accounting research to be defined. objectivity in such research etc. Dr. Imamul Haque presented his views on challenges for accounting education and pointed out insufficiency of financial accounting for decision making by managers. Prof. Nihal Singh Jain of Prestige Institute of Mgt. & Research, Indore, opined that present form of books should disappear in the upcoming scenario. He further suggested regarding curricula that accounting theory should no more be neglected, multimedia based practical exercizes be included and mathematics be essentially taught to students. Prof. D. Prabhakara Rao of Andhra University, Vishakhapatnam, underlined the importance of computer spreadsheet application in accounting and mentioned that it was easier and cost- effective to sell such accounting education to masses. Professor R. K. Grover, Director, IGNOU, New Delhi, was of the opinion that Indian Universities need to restructure commerce programmes with accounting bias and build up necessary linkages with the accounting professional institutes. Prof. M. Narayan Roy of Berhampore College, Berhampore, presented a case study of fifty-five companies regarding their disclosure practices on conservation of environment. Dr. (Mrs.) P. Ranade of SNDT, Pune, presented her paper on applicability of technical analysis to Indian stock markets and mentioned that there was an ample scope for such applications. Prof. H. J. Rana of Nadiad came up with various suggestions regarding accounting education and research in India. Miss Dipti Trivedi discussed challenges before accounting education and suggested separate deptt. of accounting, refresher training for teachers and practical training for students. Prof. Kamresh Jani, Rajkot, highlighted the need for practice based teaching. Dr. J. M. Mehta of MTD College of Commerce, Rajkot, presented details of a survey regarding qualification requirements for various posts based on Business India published during 1995. Dr. S. Bhanawat and Shri T. K. Bhadviya of Rajasthan Vidyapeeth, Udaipur, presented details of an opinion survey of thirty chartered Accountants regarding accounting education and concluded, inter alia, that teaching methodology for such education be improved. Dr. G. Soral of M. L. Sukhadia University, Udaipur, presented the scenario of doctoral researches in accounting in India vis-a-vis the United States and suggested broad guidelines to prepare agenda for such future research in India. His paper was given the best paper award. Dr. V. K. Gupta and Shri A. K. Satsangi of DEL Dayalbagh, Agra, highlighted certain emerging issues and made suggestions regarding accounting education. Professor M. N. Mishra of Banaras Hindu University, Varanasi, made his observations

regarding accountability of accountants. Prof. B. M. L. Nigam of University of Delhi called for structural changes in teaching and advocated separate department for accounting. He also suggested course-work integration with doctoral research. Dr. V. K. Vasal of University of Delhi made his observations on various papers presented and favoured flexibility in syllabus for betterment of accounting education.

At the end, Chairman Prof. R. P. Srivastava of Kansas State University, Lawrence, Kansas, USA, thanked the paper presenters and audience for making the session lively. He also made certain valuable comments on the subject-matter and stressed that India should take appropriate steps to improve her accounting education system, and quality of accounting researches if she wants to compete with other developed and developing countries.

FOUNDATIONAL RESEARCH IN ACCOUNTING PROFESSIONAL MEMOIRS AND BEYOND

by **Richard Mattessich**

Arthur Anderson & Co. Alumni Professor Emeritus
Faculty of Commerce & Business Administration
University of British Columbia, Canada

Chuo University Press, 1995, pp. 171, Price : Yen 3,090.

This is Professor Richard Mattessich's autobiographical recollections published in honour of his forthcoming 75th birthday (in 1997) and in appreciation of his eminent contributions to accounting and its philosophic foundations during the past four decades. "These memoirs", in the words of Professor Mattessich, "offer not only some glimpses of my professional and personal life, but also convey to prosperity the academic flavour of our discipline during the second half of the 20th century." The publishers should be congratulated for making these memoirs of an outstanding academic researcher accessible to a larger audience the world over.

The book can be purchased from the following address :

Chuo University Press
742-1 Higashinakano
Hachioji, Tokyo 192-03
Japan
Fax : + 81-426-74-2354

IAA BRANCH NEWS

KARNATAKA BRANCH

The Karnataka Branch of IAA was inaugurated on 21st November, 1995, at Senate Hall, Central College, Bangalore University, Bangalore, by Dr. N. R. Shetty, Vice-Chancellor of Bangalore University. Dr. P. N. Reddy, Dean and Chairman, Department of Commerce and Management, presided over the function. Dr. B. C. Sanjeevaiah, Secretary of the Branch, read out the report comprising objectives and activities of the IAA. He also stressed the need for upgrading accounting education at the University level to face emerging challenges at the national and international level. Following members are the first *office-bearers* of the Branch :

President	:	Dr. K. Aswathappa
Vice-President	:	Prof. K. Banada Rangaiah
Secretary	:	Dr. B. C. Sanjeevaiah
Joint Secretary	:	Dr. Y. Rajaram
Treasurer	:	Sri B. G. Sathyaprasad

SALEM BRANCH

First Executive Committee

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Dr. S. Govindarajulu, Vaniambadi	...	Executive Member
Dr. S. Gurusamy, Madras	...	Executive Member

UDAIPUR BRANCH

1. *The Executive Committee :* The executive committee for 1995-96 was elected/nominated as follows :

Chairman	:	Dr. M. L. Dashora
Sr. Vice-Chairman	:	Dr. R. L. Tamboli
Jr. Vice-Chairman	:	Dr. N. K. Pandya
Secretary	:	Dr. G. Soral
Joint Secretary	:	Shri P. R. Somani
Treasurer	:	Dr. S. Bhanawat
Executive Members	:	Shri B. L. Heda Shri Ashok Kothari Dr. Mahendra Sojatia

The executive committee unanimously nominated Professor K. R. Sharma, Dean, College of Commerce and Management Studies. Udaipur, as Patron of the branch.

2. *A Round-Table Conference* was organised on the theme *"Globalisation : Implications on Accounting"* on 19th July, 1995 at College of Commerce and Management Studies (CCMS) Seminar Hall. Professor Shyam S. Lodha of Southern Connecticut State University. New Heaven. U.S.A., was key speaker on the occasion. Professor K. R. Sharma of Deptt. of Accountancy and Statistics, M. L. Sukhadia University, Udaipur, chaired the conference session. The session was well-participated.

3. A one-day *Seminar on Accounting Issues* was organised on 6th August, 1995 at CCMS Seminar Hall. The issues were related with the then forthcoming National Convention of the Association, namely, Accounting Education and Research, Macro Accounting and Globalisation and Tax Reforms. Dr. M. L. Dashora was Seminar Director and Dr. R. L. Tamboli was Organising Secretary. In all, seventeen papers were presented in the Seminar.

4. A *Seminar on Transparency in Accounting* was organised on 11th August, 1995 at CCMS Seminar Room. Professor N. M. Khandelwal, Dean and Director, Faculty of Management Studies, M. D. University, Ajmer, chaired the seminar session.

5. A *Full-day Family Picnic* was organised on 3rd Sept., 1995 at Jal Burj, near Peechola Lake, at Udaipur. Shri B. L. Heda and Shri P. R. Somani who are respectively the Convener and Member of Fellowship Committee of the Branch, took lead in its organisation.

6. A *Round-Table Conference on issues related with Post- Graduate Curriculum in Accounting and Finance* was organised on 9th December,

1995 at CCMS Seminar Hall. Professor A. K. Singh, Director, Faculty of Management Studies, M. L. Sukhadia University, Udaipur, chaired the seminarsession. A panel of specialists initiated the deliberations which comprised Professor K. R. Sharma from academics, Shri O. P. Chaplot from Chartered Accountants, and Shri V. K. Ranka from Cost Accountants. A background paper compiled by Dr. S. Bhanawat and Dr. G. Soral was also circulated among the participants of the conference.

7. *Felicitation of IAA President :* The Executive Committee of the Branch in its meeting on 6th January, 1996, felicitated Patron and founder Chairman of the Branch, Professor K. R. Sharma, on his being elected as President of the Indian Accounting Association. At this occasion, special mention was made of the Best Paper Award conferred on Dr. G. Soral, Secretary of the Branch, in "Seminar on Accounting Education and Research" held during XIX National Convention of IAA (26th-27th Dec., 1995) at Ujjain.

8. An Accounting knowledge competition for the youngsters in the town namely *IAA Talent Search '96*, was organised on 11th February, 1996 at MV Shramjeevi College, Udaipur. In the competition, 260 candidates were registered, out of whom 160 candidates actually appeared for the examination. Three best performers in the Talent Search were Shri Gaurav Gupta, Shri Kamlesh Bansal and Shri Sachin Agrawal. The competition was organised by Dr. G. Soral and Dr. S. Bhanawat.

9. A *Talk on "Globalisation : Implications for Accounting Profession"* was organised on 29th February, 1996 at CCMS Seminar Hall. Main speaker was Shri Arvind Shah, former Chairman of Udaipur Branch of the Institute of Chartered Accountants of India. On this occasion, veteran Chartered Accountant, Shri B. L. Shah, distributed awards and excellence certificates to the winners of IAA Talent Search 1996.

10. A *Workshop on Computer Accounting* (April 20-24, 1996) was organised for the members of the Branch at CCMS Computer Centre. Main faculty for the workshop was Shri Deepak Mehta of M/s Crystal Computers, Udaipur. Infrastructural support for the Workshop was provided by Prof. K. R. Sharma, Dean, CCMS. An exercise set for the participants was developed by Dr. S. Bhanawat, Assistant Professor, and Shri D. S. Sharma, Chartered Accountant. Chief Guest at Valediction of the workshop was Professor R. K. Rai, Vice-Chancellor, M. L. Sukhadia University, Udaipur. The workshop was co-ordinated by Dr. G. Soral.

The Executive Committee of the Branch had its meetings on 6th May, '95; 14th July, '95; 4th October, '95; 6th January, '96 and 30th April. '96.

CALCUTTA BRANCH

Indian Accounting Association, Calcutta Branch, opened just after the Third All India Accounting Conference in Calcutta in 1973, is at present working under the guidance of the Executive Council comprising Professor Sukumar Bhattacharya, Chairman, Professor Ishan Kumar Chatterjee, Vice-chairman, Dr. J. B. Sarker, Secretary, Sri A. K Basu, Treasurer, and Professor P. Das, Professor B. Banerjee, Dr. P. R . Choudhury, Dr. N. G. Choudhury, Sri Manipadma Dutta as the members and Sri R. N. Saha as the permanent Invitee. Every year it organises a seminar on the day it holds its annual general meeting and a one-day conference on contemporary issues in Accounting, Finance and Control at the end of each financial year.

The Annual Conference for the year 1995-96 has now been scheduled to be held on the 13th of July 1996 at Burdwan, under the auspices of Department of Commerce, Burdwan University. The topic that has been selected for deliberation at the conference is "Amalgamation and Merger in the Corporate Sector—Developments in India".

The conference is likely to be inaugurated by the Vice-Chancellor of Burdwan University. Prof. D. Prabhakara Rao, General Secretary, Indian Accounting Association, is expected to grace the occasion by his presence. Both the inaugural and technical sessions will be chaired by Prof. Sukumar Bhattacharya, the Chairman of the Branch. Mr. Abhijit Mukherjee, Secretary and Vice-President of Dunlop India Ltd., has been invited to present the keynote paper. A large number of papers are also expected to be presented by the members of the Branch and by invitees to the conference. In view of the warm response from the members of the Branch, it is expected that the conference will be a great success.

With Compliments of :

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

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

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