INDIAN Journal of ACCOUNTING

Volume XIX

June 1989

Journal of THE INDIAN ACCOUNTING ASSOCIATION

THE INDIAN ACCOUNTING ASSOCIATION

President	Prof. M. C. Khandelwal, Rajasthan University	
Vice-Presidents	Prof. Bhabatosh Banerjee, Calcutta Universit Dr. Chhote Lal, Banaras Hindu University	
General Secretary	Prof. Mukund Lal, Banaras Hindu University	
Treasurer	Prof. H. S. Kulshrestha	
Chief Editor	Prof. Bhabatosh Banerjee, Calcutta University	

Members (Elected)

Dr. S. P. Gupta,	Prof. Pranesh Das,				
Rohilkhand University	Burdwan University				
Prof. R. N. Saksena,	Dr. H. C. Mehrotra,				
Kumaun University	Agra University				
Dr. B. M. Bhadada.	Prof. Mahinder N. Kaura				
University of Jodhpur	Adm. Staff College of India				
Dr. D. Prabhakara Rao,	Prof. B. M. Lal Nigam,				
Andhra University	University of Delhi				
Sri B. D. Gujarati,	Dr. D. C. Jain,				
Varanasi	Rajasthan University				
Prof Do	ol Singh				
(Immediate Past President)					

Members (Co-opted)

Prof. S. K. R. Bhandari Dr. J. B. Sarker Formerly of Banaras Hindu University

Burdwan University Sri S. Bhattacharya Calcutta University

Indian Journal of Accounting

Volume XIX

June 1989

CHIEF EDITOR

B. BANERJEE University of Calcutta

ASSOCIATE EDITOR A. K. BASU University of Calcutta

EDITORIAL BOARD

S. K. R. Bhandari Formerly of Banaras Hindu University

R. Rajagopalan Government of India

K. S. Mathur Formerly of University of Rajasthan

L. S. Porwal University of Delhi

P. K. Ghosh University of Delhi

G. D. Roy Formerly of University of Calcutta

Y. Ranga Rao Andhra University Stephen A. Zeff Rice University

Yuji Ijiri Carnegie-Mellon University

Gordon Shillinglaw University of Columbia

Charles T. Horngren Stanford University

Joseph A. Silvoso University of Missouri

Barry E. Hicks Laurentian University

Vijaya S. Sishtla Pennsylvania State University at Harrishburg

Members of the Editorial Board and the Indian Accounting Association are not responsible for any of the views expressed by the contributors in the Indian Journal of Accounting.

INDIAN ACCOUNTING ASSOCIATION

PAST PRESIDENTS OF THE ASSOCIATION
Mr. Raghu Nath Rai —Chartered Accountant, U. P.
Dr. S. N. Sen (Late) —Past Vice-Chancellor, Calcutta University
Dr. S. K. Raj Bhandari —Former Professor, Banaras Hindu University
Mr. G. D. Roy -Former Professor, Calcutta University
Mr. M. C. Bhandari —Chartered Accountant, Calcutta
Dr. K. S. Mathur — Former Professor, University of Rajasthan
Dr. R. Rajagopalan —Additional Secretary, Government of India, New Delhi
Dr. L. S. Porwal —Professor, University of Delhi
Dr. H. C. Mehrotra —Former Dean, Agra University
Mr. S. M. Dugar —Member, Company Law Board, Government of India
Dr. S. P. Gupta —Rohilkhand University
Mr. S. Bhattacharya —Chartered Accountant, Calcutta
Dr. Dool Singh

-Former Professor, Kurukshetra University

EDITORIAL

The present volume of the Indian Journal of Accounting contains six research articles on current issues. Professor Vijaya Saradhi's article deals with the economic planning and accounting education in India. Arun Kumar Basu has a happy knack of presenting his ideas on burning issues in a simple and lucid style. His article. Stock Market Efficiency and Corporate Financial Reporting, is no exception to this trend. Debasis Bagchi suggests a new approach to corporate distress analysis. Dipti Kumar Chakraborty highlights how Public Sector Accounting influences the Corporate Accounting in India. Sri Swapan Kanti Chaudhuri has worked on the crucial area of Systemic Equity Risk and presents some useful findings. Last but not the least, Dr. Binoy Krishna Sarma's article is based on his thesis which recently earned him Ph. D. Degree from the University of Calcutta.

The publication of this volume was held up for sometime for want of adequate number of articles and necessary funds. At last, the Calcutta Branch of the Indian Accounting Association came to my rescue by funding the entire cost of publication of this volume. I find no words adequate to express my gratitude for this.

In the end, I must thank Sri A. K. Basu, Associate Editor, for taking all pains to look after the publication of the journal. The responsibility for any lapse is, however, mine.

Calcutta July 15, 1989 B. Banerjee Chief Editor

XV ALL INDIA ACCOUNTING CONFERENCE CALL FOR PAPERS

The XV All India Accounting Conference of the Indian Accounting Association will be held at Saurashtra University, Rajkot, Gujarat, on 16th and 17th December, 1989. The following topics have been earmarked for discussion:

Conference :

- 1. Cost Management Practices in Public Enterprises in India
- 2. New Perspectives in Corporate Financial Reporting in India

Seminar :

Interaction between law and accountancy

Papers are invited from the members and others who are interested. Full text of the papers (in duplicate), neatly typed in double space and accompanied by a short summary should be sent, preferably by 15th November, 1989, to:

Prof. N M. Khandelwal

Head of the Dept. of Commerce Saurashtra University Rajkot, Gujarat.

Indian Journal of Accounting

Vol. XIX	June	1989
CONTENTS		
Economic Planning and Accounting Education in University		
—Vijaya Saradhi Sishtla	•••	1
Stock Market Efficiency and Corporate Financial Reporting		
—Arun Kumar Basu	•••	13
Corporate Dist re ss—An Empirical Analysis		
—Debasis Bagchi	•••	37
Public Sector Enterprises and Corporate Accounting in India		
—Dipti Kumar Chakraborty	•••	51
Empirical Determinants of Systematic Equity Risk (Beta)		
—Swapan Kanti Chaudhuri	•••	67
The Practices and Policies of Depreciation in Bangladesh		
-Binoy Krishna Sarma	•••	76

Economic Planning and Accounting Education in University

-Vijaya Saradhi Sishtla*

An attempt is made in this paper to identify the new and varied demands on accounting education in the wake of the kinds of accounting needs that arose in the different sectors of the economy under economic planning during the Five Year Plans and examine the steps taken by the universities over the period since early 70s to restructure their accounting education with a view to meeting such of those demands. This survey study has revealed that universities followed an almost individualistic approach and have been slow in the revamping process due to factors such as absence of a unified policy. financial and other resource constraints. Therefore it is suggested that University Grants Commission which is the overseeing body should come to grips with the formulation and implementation of an overall unified accounting education policy for the universities in order to make the general purpose type accounting education offered all along by them serve adequately the accounting needs of the changing environment, and link it in the best possible manner with the professional accountant education offered by the Institute of Chartered Accountants of India.

Economic planning in India under the Five year plans brought in its wake a significant amount of sectoral development as well as enterprise and institutional growth by 1966, the end of the Third Plan period. Logically this led to new demands both on the general purpose type accounting education offered all along by the universities and on the professional type offered by the Institute of Chartered Accountants of India. The universities began recognizing these new demands since early 70s, only after the Institute initiated its steps.

The purpose of this paper is first to identify broadly the new demands on accounting education in terms of the new and expanded accounting needs of the changing economy under economic planning and next assess the steps taken by the universities from time to time with a view to meeting with these demands and finally offer suggestions for suitable action to overcome the lacunae.

* Professor of Accountancy, Division of Business Administration, The Pennsylvania State University at Harrisburg, U.S.A. The data for the study were obtained through a mailed questionnaire administered to the chairmen of the Departments of Commerce and the deans of the Faculties of Commerce of selected universities offering accounting education in the different regions of the country¹, the Indian Accounting Association and the Institute of Chartered Accountants of India. The period covered by the study was broadly early 70s through 86.

Section I deals with the economic change and accounting education needs, Section II with the university response while Section III offers suggestions for suitable action to overcome the lacunae.

SECTION I

Economic Change and Accounting Education Needs

The rapid growth and development in the different sectors of the economy under economic planning ushered in several areas of economic decision-making creating the need for different kinds of new accounting information and reporting by the late 50s. To illustrate, the large scale emergence and the growth of the public enterprise sector with its economic and social objective and huge investments in basic, heavy and consumer areas of economic activity created the need for designing suitable accounting information systems for internal as well as external reporting. Also it made the audit and disclosure function more rigorous and extensive but distinctive as well. Second, the enormous growth in the small-scale industry and service sectors witnessed the creation of large numbers of private limited and partnership entities for which suitable activity oriented accounting systems became necessary for efficient account-keeping, planning and control. Third, with the expansion and the proliferation of the public limited corporate sector its reporting, audit and disclosure functions were made more rigorous by new corporate and other economic legislation. Also at the entity level a growing need became apparent not only for proper cost and profit measurement but also for different types of management accounting information for complex internal decisions. Fourth, international transactions under programs of economic development grew in number, variety and complexity demanding specialized skills for their proper accounting and reporting. Finally, the fillip given to the cooperative sector and its ramification into several areas of economic and social activity, the organization of institutions for community welfare and social development and the establishment of

promotional and development institutions to aid, assist and rehabilitate industry demanded new accounting and reporting skills from the angle of their stewardship, program effectiveness and public accountability.

SECTION II

University Response

Accounting education at the university level has been offered generally as part of the graduate (B. Com.) and the post-graduate (M. Com.) programs in commerce. Till early 70s it comprised accountancy as a core subject for two years and Advanced Accountancy & Auditing as an elective for one year at the graduate level while it was imparted as an elective consisting of two subjects e.g., special accounts, auditing, cost accountancy and taxation. The emphasis in instruction was on aspects like preparation and presentation of accounts and financial statements according to statutory requirements, audit and investigation procedures, tax law and accounts, and costing systems including standard costing. The priorities in working on problems was on computational skills, speed and accuracy in solving and presentation.

It was in the early 70s that universities—their departments of commerce—began recognizing the lacunae in their accounting curriculum in light of the new demands on accounting education that emerged, and started the 'process of restructuring their accounting education. We propose to examine hereunder the steps taken by them in this regard under two broad categories. viz, (i) programs, courses and curriculum changes and (ii) instructional methods and practical orientation.

(i) Programs, Courses and Curriculum Changes :

1. There were attempts at strengthening the accounting base of the existing programs in commerce e.g., offering 4 to 6 courses/subjects in the accounting area at the post-graduate level and start new acconting programs in the specific areas of accounting need e.g., postgraduate diploma programs in taxation and management accounting.

2. New subjects were offered as core or elective and new topics were included in the erstwhile subjects curriculum both at the B. Com. and the M. Com. levels. These changes were meant e.g., to impart requisite knowledge and skills for dealing with the expanded financial reporting, audit, disclosure, cost and internal audit requirements, financial analysis, criticism and evaluation of published accounts; to provide adequate accounting knowledge to handle the accounting function in small-scale industry and agriculture; and to provide a broad exposure to accounting concepts and conventions at the B. Com. level.

(ii) Instructional Methods and Practical Orientation :

1. The course descriptions and the syllabi on subjects like Advanced Accountancy, Cost Accounting and Management Accounting at the post-graduate (M. Com.) level appeared to be traditional and the topic coverage did not reflect a planning and control focus or a decision-oriented approach where demanded.

2. Accounting courses were heavily problem oriented strassing more on computational skills and procedural aspects and less on decision situations.

3. The instructional method was lecturing and problem solving, the latter taking away even as much as 80 percent of the classtime. Decision oriented problems and techniques such as case method and role playing were not used due to paucity of text books and teaching materials providing the Indian setting and also trained faculty in adequate numbers.

4. Universities were not in a position to provide practical training facilities in the accounting areas at the M. Com. level on account of meagre rapport with industry and business, let alone the problem of providing such training to large numbers of students.

5. There were financial constraints to start accountancy laboratories and provide practice sets to the students at the undergraduate (B. Com.) level in order to make learning more effective by making it practical oriented. In some universities courses like Advanced Accountancy, Auditing and Taxation were taught by practicing Chartered Accountants and also guest lectures were arranged by the accounting and financial executive and the auditors in order to provide a practical focus to accounting courses.

SECTION III

Conclusions and Suggestions

The foregoing discussion based on the survey results has brought to light that universities have been slow in their effort to restructure their accounting education. Second the steps that were taken by them indicated several lacunae due to lack of a unified policy, financial and other resource constraints. Therefore we propose to make the following suggestions for suitable action in order to overcome the lacunae and help accomplish an effective resolution of the problem :

(i) Programs and Courses :

The restructuring of the existing courses and introduction of the new ones primarily require the identification of the economic and social variables whose management demand the organization of accounting service/s in the interests of the economy in general and its different activity centers in particular. To illustrate : (a) efficiency and productivity, a guiding principle of the Seventh Five Year Plan, (b) rapid technological changes in industry, (c) international business, (d) welfare activities, pension and provident funds, and (e) public spending and accountability.

Second, courses and programs have to lay greater stress on the aspect of organization of accounting information for purposes of control and evaluation e.g, practical aspects of responsibility accounting, human motivation and behavior, efficiency and effectiveness in the context of accountability.

Third, it is necessary to streamline the course content in order to provide working knowledge of an accounting operation e.g., finalization of company accounts, budgeting and budgetary control. (Vide Appendix I : Accounting Education Requirements For Positions In Industry).

Fourth, in view of the expanding international accounting needs international accounting as an elective with coverage of practical aspects including harmonization of accounts may be introduced either at the B. Com. or M. Com. level.

Fifth, the structuring of accounting courses for different sectors of economic activity such as small-scale industry and agriculture requires a careful consideration of factors such as the following:

- (i) identification of the underlying accounting process which is common to other similar accounting courses in order to avoid the overlap if any;
- (ii) recognition, measurement and reporting issues that are peculiar to the activity and therefore necessitate developing specific guidelines or procedures;
- (iii) distinctive features of planning and control, organizational, behavioral and environmental factors to be considered in designing a suitable accounting system; and

(iv) provision for practical orientation and training.

Sixth, the content and coverage of courses in accounting theory should be designed so as to suit the program level and the purpose of the course.

(ii) Instructional Methods :

First, instruction in accounting courses should aim at focussing the concept that underlies an accounting computation, procedure or a reporting method rather than merely applying the guiding accounting standard, guideline or statutory provision.

Second, in order to make the instruction practical oriented and allow time for learning the practical aspects in the class-room the following steps could be found useful :

- (i) preparation of discussion materials on practical and decisionoriented situations from journals, case studies, and faculty research materials for use in teaching and class discussions;
- (ii) home assignments to students dealing with practical accounting aspects based on such materials as available in business and accounting journals, company annual reports and prospectuses or from local business and non-business entities;
- Use of audio-visual aids in order to facilitate quicker and step-by-step understanding of problems and difficult subject matter; and
- (iv) In-plant exposures to accounting teachers for a clearer understanding of the technical cum accounting aspects of a situation or fact in order to be able to teach it in its proper perspective.

(iii) Rapport With Industry and Professional Institutes :

Accounting education at the university level in a fast developing economy requires continuing rapport between the university and the industry in order to be able to subserve the growing practical accounting needs of the latter. Such a rapport should not only facilitate the provision of practical exposure to the accounting student either in the industrial unit or the class room but also be able to contribute to a process of continuing education and research to the teacher in the accounting aspects of industrial entities. Also such a rapport would be useful for organizing resources to start accounting laboratories, funding faculty research and producing teaching materials and text books in accounting. Second, it is necessary to establish rapport with the Institute of Chartered Accountants of India which offers professional accountant education leading to the attainment of the position of Chartered Accountant and also with the Institute of Cost and Works Accountants of India which offers professional education leading to the attainment of the position of Cost Accountant. Such a rapport would be useful for coordinated work on curriculum and course development with a practical and professional bias and teacherprofessional accountant interaction. Like-wise rapport with the leading management development and training institutions³ and the Institutes of Management would be useful in the development of teaching materials and practical-oriented curriculum and providing teaching-practitioner interaction in the class-room.

(iv) Need For An Overall Policy :

In the end it is important to observe that an overall policy on accounting education could not emerge for the entire university system in the country with the result the revamping of accounting education in the universities has all along proceeded either on individual university or state-wise basis with little uniformity in approach. Therefore it is highly imperative that an overseeing agency like the University Grants Commission Should concern itself with the formulation of an accounting education policy for the universities in consultation with the Indian Accounting Association, the professional accountant institutes, the universities, industry and business. A plan of action accordingly should be prepared for effective implementation. The objective of such a policy and the plan should be not only how best to make the general-purpose accounting education in the universities serve adequately the changing needs of the country's developing economy but also how efficiently to integrate it at its different levels with the professional accountant education.

NOTES

1. The sample for the study was selected on a judgmental basis. The data for the study consisted of the replies to mailed questionnaires to the universities in the southern states of Andhra Pradesh, Tamilnadu, Karnataka and Kerala, and information collected through personal correspondence on the Universities of Rajasthan, Gujarat, South Gujarat, Saurashtra, Udaipur, Baroda, Bombay, Delhi, and Punjab. Panjabi and Gurunanak Universities situated in the western and northern regions.

- 2. By about the same time the Institute of Chartered Accountants of India took the lead in recognizing the need for restructuring its Professional Accountant education by constituting a Review Committee to "consider… whether the existing system of education and practical training adequately met the needs of industry, and to make recommendations to enable Chartered Accountants to adequately face the changing environment, new challenges and problems for the future.
- 3. ILLUSTRATIVE LIST OF PROGRAM RESTRUCTURINGS, NEW PROGRAMS AND COURSES, AND NEW TOPICS IN EXISTING COURSES

Graduate Programs

- I. PROGRAMS
- (i) Restructuring: **B.** Com: Advanced Accountancy as core all the 3 years of the course.
- (ii) New Programs : B. A. : Accountancy as elective.

B. Sc. : Accountancy & Cost Accounting as ancillary courses.

Post-graduate : M. Com. : 4 to 6 courses. Dipomas in :

- (i) cost accounting
- (ii) taxation
- (1ii) management accounting
- (iv) public accounting
- II. NEW COURSES
- (i) As Core: 1. Quantitative Methods for business and accounting.
 - 2. Computer Applications to business and accounting.
- (ii) As Elective : 1. Accounting for agriculture.
 - 2. Small-scale industry accounting.
 - 3. Accounting for non-profit organizations.
 - 4. Cost Accountancy.
 - 5. Managemement Accounting.

Post-graduate program : M. Com.

- 1. Accounting system and techniques.
- 2. Internal auditing.

III. NEW TOPICS IN EXISTING COURSES :

Graduate program : B. Com.

Financial Accounting

- 1. Financial Statement Analysis.
- 2. Cash flow and Fund flow statements.
- 3. Reporting of financial data.
- 4. Auditing under computer environment.

Post-graduate program: M. Com.

A. Financial Accounting :

1. Accounting practice in selected manufacturing companies. 2. Government system of accounting. 3. Valuation of shares. 4. Criticism of published accounts. 5. Indian and international accounting standards. 6. Accounting concepts and measurement of income. 7. Current trends in corporate reporting and disclosure. 8. Social accounting and social audit. 9. Behavioral aspects of accounting.

B. Cost Accounting:

1. Systems of costing in selected manufacturing, service and non-profit organizations. 2. Cost audit in selected industries.

C. Management Accounting:

1. Inflation accounting. 2. Inter-firm comparison. 3. MIS.

4. Control of divisional management. 5. Human resource accounting.

- Note: In order to resolve the structure of the accounting content in the M. B. A. program, the All India Work-shop of Management Education in August 1986 recommended that Accounting for Management, Management Information System and Quantitative Techniques be introduced instead of one accounting course.
- 4. The program methodology of the management development and training institutions is generally a "blend of lectures, problem centered exercises, case studies, group discussions, syndicate work, discussions on individual institution problems…assembly presentation. In some cases questionnaire, incidental method and quiz are also used...."

An illustrative list of the program material that could be found useful in restructuring accounting programs in universities : (i) The Administrative Staff College of India:

> 1. Zero-based budgeting, 2. Financial control and reporting, 3. Cost management for public sector enterprises, 4. Hospital management and 5. Corporate social responsibility and social audit.

- (ii) The State Bank of India Staff College :
 - 1. Credit management, 2. Working capital management,
 - Broject finance, 4. Rehabilitation of sick units,
 Export financing and 6. International banking.
- (iii) Management Development Institute of the IFCI :

1. Cost effectiveness of human resources, 2. Social accounting in public enterprises, 3. Information systems for effective sales and marketing, 4. Project planning and control and 5. Productivity and profitability.

APPENDIX I

Accounting Education Requirements For Positions In Industry

Accounting area		Supervisory positions		Non-supervisory positions
	1.	Aspects of financing and accounting.	1.	Independent handling all functions of an accounts department.
	2.	Knowledge of statu- tory obligations at operational level.	2.	Preparation of vou- chers, writing cash books. Maintenance of books of account
I. Financial accounting :	. 3.	Ability to deal with banks and financial institutions. Bank- ing transactions and formalizion	3.	Accounting for pro- vident fund, wage and health benefits.
b	4.	Finalization o f company accounts.	4	Experience in com- pany accounts. Finan- cial statements pre- paration.
	5.	Branch accounting and administration. Management of debtors and cash		· ,
- 531- - 531-	1.	Liaison with audi- tors and tax con- sultants	1.	Knowledge of audi- ting.
II. Auditing :	2.	Ability to prepare international audit		
	3.	reports. Knowledge of auditing.		

10

. . .

Accounting area	Supervisory positions			Non-supervisory positions	
III. Taxes :	1.	Knowledge and 1 ability to handle income-tax, sales tax and other taxes (industrial taxes). Tax planning	L.	Knowledge of taxes.	
	1.	Ability to handle 1 the accounting functions of a manufacturing com- pany. Exposure to computerized systems.	L•	Costing and costing procedures.	
	2	Ability to develop and implement managerial and finan- cial information system. Conceptual, analytical and communication abilities.	2.	Accounting for wages, payroll.	
IV. Cost and Management Accounting :	3.	MIS, Management Reporting Installa- t i o n, operation, provision of timely information.	3.	Knowledge of capital and operational budgets.	
	4.	Costing and pricing. 4 Advis ng/monitoring proper and prompt implementation of pricing the product.	1.	Execution of works and stores contracts.	
	5.	Financial planning 5 and control. Planning, budgeting and budgetary control.	5.	Financial and bud- getary control.	
	6.	Working capital 6 management. Re- source and cash management. Cash credit procedures.	5.	Exposure to EDP operation.	
	7.	Project financing and project monitoring. Capital expenditure control.			

-

V. Project Accountants :

Feasibility studies, 2. project cost estimation and control,
 cash disbursement control, 4. inventory management,
 contract administration, 6. knowledge of PERT, CPM and
 other techniques to provide management support for project
 implementation, and 7. computer applications.

(Source : Selected job advertisements in national news papers, 1984-86)

ACKNOWLEDGMENT

- 1. The author is thankful to the deans and the chairmen of the Faculties and the Departments of Commerce respectively of the several universities for their special interest in responding to the questionnaire of the survey and mailing the requisite information and their views.
- 2. In this connection the author is specially thankful to professors N. M. Khandelwal (Saurashtra University). (University Om Prakash of Rajasthan). H. S. Kulshrestha (Manipur University & Treasurer, Indian Accounting Association), M. Gangadhara Rao (Andhra University), A. Shankaraiah and V. Gangadhar (Kakatiya University), C. Purushothaman Nair (University of Kerala), P. L. Mani (Madurai K. University), O. R. Hanumanthappa (Bangalore Krishnaswami and K. University), C. M. Muniramappa (Mysore University), R. S. Dwivedi (Kurukshetra University), L. C. Gupta (Management Development Institute of IFCI) and Dr. N. K. Agarwal, Secretary, University Liaison Committee of the Institute of Chartered Accountants of India.

Stock Market Efficiency and Corporate Financial Reporting

—Arun Kumar Basu*

The efficiency with which stock markets process the available information in pricing corporate securities is a phenomenon of very crucial importance to those who are responsible for designing policies in relation to external financial reporting of companies. This paper first examines the efficient market model which has been developed by market researchers for the purpose of explaining the behaviour of the stock market with respect to different types of information. This is followed by an analysis of the empirical evidence researchers have gathered in support of the informational efficiency of stock markets. Finally, it examines the various implications and nonimplications of the efficient market model for corporate financial reporting. The conclusion is reached that even though stock market efficency is important, it cannot be the sole basis for the determination of the form and content of published financial reports of companies.

Introduction

Numerous empirical studies have been conducted during the recent years in the industrially developed countries, particularly in the United States, with a view to gaining an insight into how the information available to investors is processed by stock markets in pricing corporate securities. These studies have provided an impressive amount of evidence in support of the proposition that the markets where corporate securities are traded are efficient markets "in the sense that : (1) market prices 'fully reflect' all publicly available information and, by implication, (2) market prices react instantaneously and unbiasedly to new information" (Gonedes, 1972, p. 12). In a stock market which is efficient with respect to a particular set of information there lies little scope for investors to earn superior profits by trading on that set of information. Thus if stock markets are efficient in their use of the information contained in the published accounting reports of companies then this information cannot be gainfully employed by investors for purposes of earning abnormal returns. The

^{*} Reader, Department of Commerce, Calcutta University.

earning of abnormal returns by trading on an information may be possible in a stock market only if the stock market is not fully efficient in its use of that information. Efficient stock markets do not normally suffer from any kind of financial illusion and this makes things difficult for the producers of company accounts to mislead the markets using devious accounting tricks. It is the ability to see through and beyond the figures disclosed by companies in their external accounting reports which enables efficient stock markets to make a discrimination between the data which represent real ϵ conomic events and those that are the outcome of creative accounting.

There are differences of opinion among accounting theorists about the role that stock market efficiency should play in the determination of the from and content of published accounting reports of companies. It has been argued by many accounting theorists that the usefulness of corporate financial reporting will enhance greatly if efficient market theories are used as the principal basis for determining the policies and principles companies should follow in the preparation of their external accounting reports. If external accounting reports of companies are geared to the needs of the efficient stock market then there will arise a necessity to restructure thoroughly the practices currently being followed by accountants in matters concerning the identification, measurement and reporting of accountable events and phenomena of companies. The efficient stock market does not require companies to be bogged down with the activity of production of 'correct' profit and asset figures. Instead, what it requires is an adequate disclosure of all the available particulars that are relevent to the determination of security prices. It does not matter much to an efficient stock market whether an information having bearings on security price determination is disclosed in the body of the financial statements or is furnished elsewhere. In fact, it is the substance of the matter disclosed which appears to the efficient stock market to be of far greater importance than the form of disclosure.

The informational efficiency of the stock market is a very important phenomenon and it requires serious attention from those who are responsible for designing corporate financial reporting policies. But how far it will be appropriate to resolve all financial reporting controversies in terms of efficient market theories is a matter which is subject to great doubt. Many accounting theorists (e.g., Dyckman and Morse, 1986; Ketz and Wyatt, 1987) have cautioned accounting policy-making bodies not to be too much enthusiastic about efficient market studies. The efficiency of the stock market has not yet been proved beyond all shadows of doubt. Even if it is accepted that the stock market is fully efficient in its use of all publicly available information, there still remains the question of whether or not it will be prudent to use efficient market theories as the sole basis for determining the form and content of corporate financial reports. Published financial reports of companies are used for decision making purposes not only by investors but also by many other parties. The information needs of these other parties may not always be compatible with those of investors. It will be unfair if this fact is not taken care of by the framers of corporate financial reporting policies.

The analysis of the paper proceeds as follows. First, an attempt is made to offer a brief discussion of the efficient market model that has been developed by capital market researchers in order to explain the behaviour of the capital market with respect to different types of information. Second, an evaluation is made of the findings that have been provided by efficient market studies. Third, an account is rendered of both the implications and nonimplications of the efficient market model for corporate financial reporting. Finally, conclusions are drawn about the amount of importance accounting policy makers should attach to the empirical evidence on the informational efficiency of stock markets.

The Efficient Markets Hypothesis

The efficient markets hypothesis (EMH) is, truly speaking, an extended version of the demand and supply model normally used by economists in analyzing how product prices are determined in perfectly competitive markets. The main reason underlying the formulation of the EMH is to gain an understanding of the behaviour of security prices in relation to information. The essence of the hypothesis is "that the market is informationally efficient in that it processes information instantaneously and reflects it in security prices (Abdel-khalik and Ajinkya, 1981, p. 47-2). The efficiency of the market with respect to different sets of information can at times be quite different. Depending on the degree to which the market is efficient in its use of different types of information, the informational efficiency of the market has been classified by researchers into three main categories (Fama, 1980; Beaver, 1981): the weakfrom efficiency, the semistrong-from efficiency, and the strong-form efficiency. The meaning and significance of each of these three forms of market efficiency are discussed below.

The Weak Form of the EMH

The weak form of the EMH is virtually an extension of the Random Walk Theory which has been used by a number of finance theorists to describe the time series of security prices. The theory aims to "generate expectations of future earnings that depend solely on the most recent earnings observation" (Watts and Zimmerman, 1986, p. 137). According to the weak-form EMH, the stock market can be described as efficient if security prices fully reflect the information contained in the past pattern of market prices. When the stock market is efficient in the weak form, investors cannot usefully examine historical price and volume data in identifying overvalued or undervalued securities. In other words, investors operating in a weakly efficient stock market do not find it easy to earn excess or abnormal returns by discovering patterns in security price movements. This occurs so because the historical price information is already reflected in current prices. Information available from other sources can. however, be used by investors to earn abnormal profits when informational efficiency of the market is limited only to historical price information. Ther is a large body of emirical evidence which is consistent with the belief that almost all stock markets are efficient at least in their use of historical price information.

The Semistrong From of the EMH

A stock market is said to be semistrong-form efficient "if it is efficient with respect to (incorporates) all the publicly available information, including information such as published accounting statements for the firm as well as historical price information" (Ross and Westerfield, 988, p. 307). It thus appears that in ord r for a stock market to be efficient in semistrong form it has first to be efficient in weak from. In a semistrong-from stock market investors find it difficult to adopt any trading rules based on the publicly available information. To put the matter somewhat differently, when the stock market is efficient in its processing of the publicly available information, such information cannot be fruitfully utilised by investors in discovering securities whose intrinsic values are materially different from market prices. The reason behind this is that as soon as any new information is released for public consumption, the market takes notice of it and adjust security prices accordingly. Although no trading rules based on published accounting information can be developed in a stock market which is semistrong-form efficient, there is nothing that will prevent investors from developing trading rules in such a market on the basis of private information.

The degree to which stock markets are efficient with respect to published accounting information has been thoroughly studied by a number of accounting and finance researchers. It has been observed in most cases that the reaction of the market to new accounting information is very quick and accurate. Included in the list of specific accounting news items that have been subjected to stock market efficiency tests are announcements of profits, declaration of dividends, releases of management profit forecasts, declaration of bonus and right issues, changes in accounting procedures, and impending mergers. Even though it cannot be said that the hypothesis has been conclusively proved, there is some sort of a general agreement that organized stock exchanges are efficient in processing the information available for public use.

The semistrong form of stock market efficiency is of particular importance to accountants because a significant part of what constitutes publicly available information is derived either directly or indirectly from sources connected with accounting. As a matter of fact, whenever accountants speak of market efficiency without any other specification, it is the semistrong-form efficiency which is what they generally intend to mean.

The Strong Form of the EMH

Strong form of stock market efficiency exists in those situations where security prices reflect all ascertainable information, including historical price information, publicly available information, and private or inside information. If stock markets are truly efficient in the strong sense then "anything that is pertinent to determining the value of the stock and that is known to at least one investor is, in fact, fully incorporated in the stock value" (Ross and Westerfield, 1988, p. 306). In stock markets which are exhibiting strong-form informational efficiency there practically lies no opportunity for investors to systematically earn abnormal profits using any type of information ascertainable either from internal or from external sources. There is little empirical evidence in support of the hypothesis that

3

stock markets are efficient processors of both internal and external information.

Having given a brief exposition to the different versions of the EMH, an endeavour will now made to render an account of the security valuation model which has been used by most efficient market researchers in connection with explaining the expeted returns from individual securities. The effect of information on security prices cannot be understood fully well in the absence of there being an understanding of how the expected return from securities are formulated at the market place. The security valuation model that has been widely used in efficient stock market studies is the Capital Asset Pricing Model (CAPM), which emerged in the mid-1960s from the works of some notable economists like Sharpe (1964), Litner (1965), and Mossin (1966). This model is designed to show, in respect, of a particular security, the exact relationship between its expected return and risk. The risk that is associated with a security is usually decomposed into two elements: systematic or market risk and unsystematic or unique risk. Systematic risk cannot be eliminated by investors; but they can get rid of the other type of risk by holding the market portfolio, i.e., the portfolio consisting of a large number of securities. Diversification cannot reduce systematic risk because this risk is related to the uncertainties of the economy as a whole. Almost all companies are more or less exposed to these market uncertainties. Unsystematic risk, on the other hand, affects only a single company or a group of companies. It is in view of this that investors can avoid the stype of risk through l olding a diversified portfolio. Thus, for practical purposes, investors have to be concerned only with the first type or risk The relationship between this risk and the expected return of a security is expressed in the one-period CAPM as follows :

$$\mathbf{E}(\mathbf{R}i) = \mathbf{R}f + [\mathbf{E}(\mathbf{R}m) - \mathbf{R}f]\mathbf{B}i$$

where,

- E(Ri) = the expected rate of return of security i as measured by the dividend and change in price over the period divided by the price at the beginning of the period;
- Rf = the risk-free rate of return;
- E(Rm) = the expected rate of return on the market portfolio; and

Bi = the systematic risk, generally referred to as beta, of the security, which is actually the ratio of covariation between the rate of return on security i and the rate of return on the market portfolio (Cov. Ri, Rm) to the variance of the rate of return on the market (6² Rm).

The difference between the expected rate of return on the market portfolio, E (Rm), and the risk-free rate of return, Rf, is the price per unit of risk and this is the same for all securities. But the level of risk, which is denoted by the beta coefficient, B, varies from company to company. Since the covariance of any distribution with respect to itself cannot but be unity, the beta coefficient for the market as a whole is always 1. But an individual security may have a beta coefficient quite different from the beta coefficient of the market as a whole. If a security has a beta coefficient of zero, it then implies that the security has no risk premium and its expected rate of return is just equal to the risk-free rate of return. Securities whose betas are greater than one are riskier than those having beta coefficients either equal to or less then one. The higher the beta coefficient the greater is the rate of return. Companies whose cash flows are very sensitive to changes in the general economic conditions have high business risks and are therefore likely to have high betas. High betas are also likely to be associated with those companies that are heavily relying on debts.

The determination of the value of a security under the CAPM requires, in the first place, the formulation of expectations about the future cash flows of the security and, secondly, the ascertainment of the expected rate of return that is commensurate with the risks associated with those cash flows. Accounting data can be of great use in providing information needed to derive measures relating to both the future cash flows and the expected rate of return. While illustrating how accounting numbers can be useful in estimating future cash flows Watts and Zimmerman (1986, p. 27) have observed:

Empirically, accounting earnings can be associated with cash flows. If they are associated, then accounting earnings of a firm for the current period can provide information on the firm's current cash flows and (if current cash flows provide information on future cash flows) on expected future cash flows. The fact as to how accounting numbers can provide information regarding the expected rate of return of a security is also not much difficult to conceive. The expected rate of return of a security is closely associated with the security's risk and this risk can be measured using indications of how accounting profits vary with fluctuations in general economic conditions.

Findings of Efficient Market Research

Research into stock market efficiency has provided findings which are interesting as well as thought provoking. Efforts will now be made in this section of the article to offer a summarized view of what efficient market researchers have observed with regard to the informational efficiency of the stock market. It may be convenient if the findings of efficient market research are divided into certain specified categories. These are as follows :

The Relevance of Accounting Profits

Arguments have frequently been put forward from various circles to the effect that since accounting profits are computed using different arbitrary methods of allocation of costs and different bases of recognition of value increments, these profits cannot be of any real significance to investors in the context of investment decision making But the notion that accounting profits are irrelevant because these profits are not computed on the basis of any scientifically determined set of rules and principles does not get much support from the phenomena occurring in the real world. Efficient market studies have provided findings which suggest that accounting profits are regarded by investors as a very important source of information. If accounting profits were irrelevant price and volume reactions around the time of profit announcements could not be as large as is usually observed.

The information content of accounting profits has in most cases been tested by efficient market researchers in terms of an analysis of the association which exists between profit announcements and movement in security prices. Ball and Brown (1968) represent one of the pioneering studies which seek to investigate whether annual profit announcements reflect factors affecting security prices. In this study the data collected from 261 companies traded in the New York Stock Exchange (NYSE) for the period 1946 to 1966 were analysed and the analysis revealed that unexpected variations in

profits were accompanied by abnormal rates of return. This prompted the researchers to conclude that accounting profits convey information to the market and are potentially useful. Based on the findings provided by another pioneering study in this area, Beaver (1968) also arrived at a similar conclusion regarding the usefulness of accounting profits in conveying information relevant to the valuation of securities. This study by Beaver was designed to investigate the information content of annual profit announcements by means of an analysis not only of changes in security prices but also of changes in transaction volumes. For purposes of the study the researcher used a sample of weekly data from 143 companies listed on the NYSE for a period of 17 weeks surrounding the week in which the announcement of profits was actually made. The results of the study revealed that both the level of activity and the unexpected rates of return were remarkably very high during the weeks companies announced their annual profits. If accounting profits were totally devoid of any information content, such things could never happen.

The above-mentioned studies have been replicated for annual profit announcements for companies listed on other leading stock exchanges situated in the U.S.A. The studies have also been replicated for annual profit announcements in respect of companies traded in stock markets situated in other countries. In most cases the replication studies have produced results consistent with those obtained by Ball and Brown and Beaver. But the fact that annual profit announcements by companies are conveying information to the market should not induce one to believe that the quantum of information is the same everywhere. Besides annual profit announcements there are also several other sources from which information is collected by investors for estimating security returns. If the alternative sources are very active, then much of the information contained in accounting profits becomes available to the market long before the profits are actually announced. In a situation like this the information content of annual profit announcements is bound to be very low. There is evidence which tends to suggest that the information content of annual profit announcements is relatively higher for smaller companies than for larger companies (Grant, 1980). The reason as to why this becomes so is not at all difficult to explain.

Watts and Zimmerman have explained the phenomenon thus (1986, p 67):

There are more news stories on large firms than on small firms and more analysts study large firms than small firms. This suggests less alternative sources of information for smaller firms and that the information content of earnings annuncements by those firms is larger.

Price and volume changes occur not only at the time of announcements of annual profits but also at the time of announcement of interim profits. This confirms the belief that interim profits are also characterized by the possession of factors affecting security prices. It has, however, been observed that even though security price changes occur at the time of announcement of interim profits, such changes are not as intense as it generally happens in the case of announcement of annual profits. May (1971) attributes this difference in the responsiveness of security prices to the perceived differences in the reliability of interim reports. He expresses the belief that if a significant improvement can be effected in the quality of interim data themselves it might then lead to considerable social benefits (p. 151).

The usefulness of acconting profits to investors lies in the fact that these profits are capable of being used as a basis for forecasting current and future cash flows. It is cash flows, rather than accounting profits, which are in the ultimate analysis taken into consideration in determining the rate of return of a company. Thus in determining the abnormal rate of return of a compny for a period it is necessary to ascertain the unexpected cash flows of the period and the change that has taken place in that period in the expectations concerning the cash flows of future periods. Expectations about the cash flows of future periods can be formulated either on the basis of current accounting profits or on the basis of current cash flows. Efficient market research has provided evidence in support of the proposition that current accounting profits are better predictors of future cash flows than are current cash flows (Beaver and Dukes. 1972 : Patell and Kaplan, 1977). According to Watts and Zimmerman (1986, P.66):

It is possible that the accrual process, by which accountants convert current cash flows to accounting earnings, causes earnings to be a better index of "permanent" earnings or expected future cash flows than current cash flows.

That accounting profits are relevant to security price determination has become almost an established fact. It should, however, be remembered in this context that all security price changes cannot always be explained by unexpected changes in accounting profit; there are several other factors that may also be responsible for bringing about changes in security prices.

Market Reactions to Changes in Accounting Methods

The existence of a close association between accounting profits and security prices often induces corporate managers to change accounting methods for the purpose of increasing the profits reported to shareholders. Those who take the trouble of manipulating reported profits by changing accounting methods are probably guided by the belief that investors always take the reporteed figures at face value. But is it really possible for corporate managers to increase the market value of their securities simply by changing accounting methods? This question cannot be answered satisfactorily without examining the nature of the change being taken into consideration. The prediction of the hypothesis underlying the earlier accounting literature, which is frequently referred to in the literature as the mechanistic hypothesis, contrasts heavily with the prediction vielded by the EMH. The mechanistic hypothesis postulates a mechanical relationship between accounting profits and security prices and its prediction is that accounting changes which increase profits increase security prices even if these changes are not accompanied by any cash flow effects. If the prediction is correct then a company should be able to increase the market prices of its securities by the adoption of procedures which enhance or smooth periodic profits. One example of how reported profits can be increased by companies through changing accounting procedures is switching from accelerated depreciation to straight-line depreciation. Such an action can pay dividends, it should be pointed out here, only when investors are functionally fixed with regard to accounting numbers.

The hypothesis that the stock market is systematically misled by changes in accounting procedures is totally inconsistent with the EMH. According to the EMH, the reactions of investors to accounting procedure changes should be unbiased. As a matter of fact, the prediction of the EMH is that "any stock price changes accompanying accounting changes are such that the resultant stock price is an unbiased estimate of the stock's future value" (Watts and Zimmerman 1986, p. 106). If the stock market is truly efficient in its use of published accounting reports then no amount of ingenuity applied by companies to the task of manipulation of reported profits can ever be fruitful in bringing about the desired impact on security prices. The EMH proponents have felt it necessary to make a distinction between accounting procedure changes that have cash flow implications for companies and the accounting procedure changes that have no such implications for them. According to the prediction of the EMH, it is the cash-flow neutral accounting procedure changes which are not relevent to the determination of security prices. It may be mentioned in this context that accounting procedure changes can have cash flow implications for companies if they have implications for taxes.

Many researchers have tried to resolve the disputes which exist between the mechanistic hypothesis and the EMH in the matter of prediction of security price effects of accounting changes by examining how the market actually behaves when companies change their accounting procedures. Market reactions to accounting changes have been studied using both cosmetic changes (i.e., changes having no cash flow implications) and real changes (i.e., changes having cash flow consequences), effected either at the discretion of the management or at the instance of the regulatory agency. Important among the accounting changes that have been subjected to market reaction studies are switch back, for accounting purposes only, from accelerated depreciation to straight-line depreciation (Archibald. 1972 ; Kaplan and Roll, 1972), changes to and from LIFO (Sunder, 1973 and 1975), changes from deferral method of accounting for the tax credit to the flow through method (Kaplan and Roll, 1972), changes in the methods of treatment of research and development costs (Dukes, 1975; Vigeland, 1981), changes in the methods of accounting for leases (Abdel-khalik, 1981), and changes in procedures

relating to foreign currency translation (Dukes, 1978). The study of security price effect of publication of inflation adjusted accounts (Gheyara and Boatsman, 1980) can also be regarded as a study belonging to this category. Barring some few cases, the studies have provided evidence which is consistent with the proposition that the stock market cannot be fooled using accounting cosmetics. When accounting profits were increased using cosmetic devices the stock market did not consider it necessary to pay any attention to this phenomenon; but when the changes effected were real economic changes, the stock market reacted promptly to them through adjusting security prices.

The Impact of Soft Data

The term "soft data" is used in the context of corporate financial reporting to refer to those unaudited data that originate mainly from management and other forecasts of future profits. There is sufficient empirical evidence bearing testimony to the fact that soft data are also capable of conveying information to the stock market. Foster (1973) represents one of those earliest studies that are specifically concerned with examining how the market reacts when management profit forecasts are publicly announced. Foster's study shows that both the volume and price changes were significantly high during the week management profit forecasts were announced. This is an indication of the fact that the announcements of unaudited profit forecasts do have information content.

Foster's study have encouraged others to undertake more comprehensive studies on the subject. The study conducted by Patell (1979) can be cited as an example of one such comprehensive study. Patell investigated the information content of forecast data using a sample of 335 management forecasts relating to 258 companies reported in *The Wall Street Journal* over a period of five years from 1963 to 1967. The investigation was carried out with the objective of examining the behaviour of security prices during the forecast announcement week relative to the behaviours of security prices during other weeks. It provided findings which tend to suggest that "the forecast disclosure week was the occasion of statistically significant price revisions" (p. 260). Similar findings have also been reported by several other researchers who have worked on the subject.

4

Since management forecasts are capable of providing information relevant to security price determination, there exists an opportunity for those who have an access to the forecast data before these are made public to earn excess returns by developing trading strategies based on them. Empirical research evidence has contributed a lot towards changing the attitudes of those who were opposed to the principle of making management forecast data available to the public.

The Impact of Supplementary or Footnote Disclosures

Can there exist in the efficient stock market any discrimination between the information which is disclosed in the body of the financial statements and the information which is provided elsewhere ? The common belief seems to be that the participants of the stock market attach more importance to the information disclosed in the body of the financial statements than the information disclosed in the footnote or supplementary sections. This belief has, however, not been fully substantiated by the evidence provided by efficient market studies. It has been observed by many efficient market researchers that stock market reactions are almost independent of whether an information relevant to the determination of security prices is disclosed by companies in the body of their financial statements or is furnished on a supplementary basis. The findings of the stock market reaction studies conducted in the U.S.A. in relation to lease capitalizations tend to serve as a basis for explaining this phenomenon fairly well. In one such study Martin, Anderson and Keown (1979) evaluated the reactions of the stock market to the capitalization of certain leases effected by companies in pursuance of the requirements imposed by the Financial Accounting Standards Board (FASB), and this study revealed that the impact of the mandated lease capitalizations on the stock market was almost negligible. At the time the FASB promulgated its accounting standard requiring companies to disclose in their balance sheets the capitalized values of certain specified categories of leases, the stock market had already incorporated into security prices the economic effect of those leases from the supplementary data'the companies provided in their annual reports in pursuance of the rules framed by the Securities and Exchange Commission (SEC). So the disclosure of the capitalized values of the leases in the balance sheets could not result in the generation of any additional information

for the stock market. This is a clear demonstration of the fact that what is reported by companies in their published accounting reports is of far greater importance to the stock market than how it is actually reported.

Mention can, in this connection, be made of another study, that of Foster (1977), which, though not directly related, has an indirect bearing on the issue under consideration. This study provides evidence in support of the view that if relevant information is provided then its impact on security prices tends to become independent of whether or not it is taken into consideration by the reporting companies in computing periodic profits. In this study Foster was concerned with identifying the valuation parameters of property-liability companies and, in the course of the investigation carried out by him, it was discovered that unrealized gains or losses on marketable securities held by insurance companies were considered by the stock market as profits, even though they were not accounted for as such by the companies in their financial statements.

The above analysis, it should be admitted here, has simply touched upon the findings of only a few of the many empirical studies efficient market researchers have conducted with a view to examining how efficiently the stock market uses the information available to it. Such an analysis can not be much effective in providing a complete picture of the efficiency with which the stock market processes different types of information. But since the scope of the present study is very limited, the discussion of this section will be concluded with some brief mentioning of what efficient market researchers have observed with regard to the responsiveness of the stock market to inside information. It has already been mentioned earlier that if the stock market is not efficient with respect to inside information then there may exit the possibility of earning abnormal profits by trading on such information. There are regulations in many countries forbidding insiders from earning speculative profits by trading in the company's securities. For example, the US Securities and Exchange Act of 1934 requires that every officer, director or owner of more than 10 percent of a listed company must disclose publicly the particulars of his holdings of that company's securities in every month in which a change in those holdings takes place. Zaffe (1974) evaluated the data contained in the insider reports for the purpose of

examining whether insiders made abnormal returns from their trades and the results yielded by his examination prompted him to conclude that these trades were really very profitable. Subsequent studies have also yielded results quite similar to those obtained by Zaffe. This seems to suggest that the stock market is not efficient with respect to inside information.

Stock Market Efficiency in India

The existence of a well organized and efficient stock market is very much conducive to the attainment of rapid economic development of a country. The stock market is an essential ingredient of the capital market, which provides a mechanism for interactions between savers and investors. Such interactions "facilitate the exchange of long term funds between saving-surplus and savingdeficit units" (Okafor, 1983, P. 66). But, unfortunately, the stock markets in most developing countries are very poorly organiz d and they do not possess the breadth necessary for the quick transformation of private capital into industrial capital. Security prices in these markets do not normally maintain any close association with fundamental values. This lack of a close association between security price and fundamental value does frequently result in the earning by investors of returns which are not commensurate with risks. True, India's position with regard to the functioning of stock markets is far better than many other developing countries. yet its stock markets are still lagging far behind their counterparts in the developed countries, particularly in the matter of efficient pricing of securities. The findings provided by the studies that have so far been conducted in India on stock market efficiency tend to suggest that the informational efficiency of the Indian stock markets is not very much encouraging. In some cases the stock markets have been found to be totally inefficient in pricing securities (Barua and Raghunathan, 1986 and 1987), while in other cases informational efficiency ranging from the weak form to the mild-type semistrong form has been noticed (Rao, 1989; Pande and Bhat, 1989).

The regulatory framework under which the Indian stock markets operate seems to be quite comprehensive. But, despite this, it has not yet been possible to eliminate the forces which contribute to stock market inefficiency. Recently, the Indian Government has, on the basis of the recommendation made by the Patel Committee, constituted a body, called the Securities and Exchange Board of India (SEBI), for monitoring and controlling the issue and exchange of publicly traded securities. This, it is hoped, will contribute a lot to the efficient functioning of the stock markets in the country.

The Implications of the EMH for Corporate Financial Reporting

The hypothesis that the stock market is efficient with respect to all forms of publicly available information can have a number of implications for corporate financial reporting. An attempt will now be made to discuss the various implications that have been suggested by efficient market researchers.

First, there are many accounting measurement issues that are not much relevant to the efficient stock market. These issues can easily be side-stepped without causing any harm to the usefulness of external financial reports. If there are no significant differences in cost to companies of using alternative methods of reporting an accountable event and if users can adjust from one method to the another without being required to bear the burden of any additional costs then the accountant should report the event using any one of the available alternatives and provide sufficient information for enabling the stock market to make the necessary The example frequently cited in this connection conversions. is income tax allocation. Income tax allocation has been and still continues to be a controversial issue in the field of corporate financial reporting. The question of income tax allocation arises because the bases used to compute taxable profits are often different from the bases used to compute accounting profits. Strict adherence to the principle of matching requires income tax to follow the profits on which it is based. Thus if a certain amount of profit is taxed in the current year but recognized for accounting purposes in a later year then there arises a need for the deferral of the tax expense. The need for an accrual of tax expense arises in a situation where the sequence of events is just the reverse. As long as relevant information is made available it matters little to the efficient stock market whether taxes are subjected to the principles of accruals and deferrals or are accounted for in a straightforwardly fashion.
It has been argued by some accounting theorists that if an accountable event is capable of being reported in a number of alternative ways then the accountant should report the event using that particular alternative which leads to the highest association with changes in security prices. This suggestion is intitutively very appealing but difficult to implement in practice. One has first to make experiments with all the alternative methods by which the event can be reported and it is only then that one can arrive at a conclusion as to which alternative has the highest association with changes in security prices. The opportunity of making this type of experiment is very limited in the field of accounting.

Second, in an efficient stock market there does not exist any need to simplify corporate financial reporting with a view to making it intelligible to the naive or ignorant investor. If corporate financial reporting is brought down to the level of understanding of the naive investor this may then lead to a considerable loss of information. Simplification in financial reporting is achieved mainly through the aggregation of data. The more there is ageregation the greater is the possibility of significant information being lost. Certain degree of data aggregation :an by no means be avoided, but too much aggregation is bound to be detrimental to the efficient functioning of the stock market. Since security prices in a stock market which is efficient with respect to publicly available information reflect all the information contained in published financial reports, the inability of the naive investor to interpret complex accounting data cannot be a real cause of his financial distress. The efficient stock market can assure the naive investor of normal return if he holds a sufficiently diversified portfolio. As a matter of fact, the naive investor can get harmed if corporate financial reporting fails to take cognizance of the information needs of sophisticated investors.

Third, if no significiant additional costs are involved then, with a view to preventing incividuals from earning excess profits by trading on the priviledged information, companies should disclose to the public as much information as is possible. Companies are required to generate different types of data for their internal decision making purposes. Some of these data can also be useful to investors in estimating security returns. Because security prices do not reflect inside information, there exists the possibility of earning abnormal profits by those who have an access to the data generated by companies for their internal use. This possibility of earning excess returns by trading on inside information can be reduced to a significant extent if such data can be made available for public use.

Fourth, while preparing external financial reports companies should pay more attention to the substance of the events they are reporting than to their forms. The efficient stock market does not necessarily discount a piece of information simply because of the fact that the information is not reported in the body of the financial statements. If an information relevant to the determination of security prices is adequately disclosed, the market's evaluation of the information will be independent of the manner in which it is disclosed. There are many types of accounting data that cannot, for legal and various other reasons, be incorporated into the audited section of the published accounting reports. But such data, if considered useful for purposes of estimation of future cash flows of the reporting company, can very well be furnished on a supplementary basis.

Fifth, since the efficient stock market does not react naively to the figures of reported profits, the producers of company accounts should refrain themselves from using cosmetic devices with a view to enhancing or smoothing periodic profits. If the market can make a clear distinction between cosmetic and real changes then all sorts of creative accounting will ultimately prove to be totally useless. It seems also not sensible on the part of the producers of company accounts to adopt practices which increase reported profits but reduce the cash dows available for the equity shareholders.

Sixth, the producers of company accounts should always remember this fact that published accounting reports are not the only source the stock market uses in procuring information relevant to the determination of security prices. There are many other sources, some of which are indeed very powerful, to which the stock market looks for the various types of information it requires in pricing corporate securities. Companies can utilize these other sources for disseminating useful information about their performances and prospects if they involve less cost. Accounting reports should be used to provide only those types of information which cannot be provided through other sources at lesser costs. But whether or not a particular piece of information can be provided through accounting reports at the minimum possible cost cannot be determined without developing an insight into the sources the market utilizes for the purpose of procurement of relevant information and also the relative costs of providing information through these sources.

What the EMH Does Not Imply

The EMH is sometimes misinterpreted by accounting and finance theorists. It is in view of this that confusions are often created about what the hypothesis does really imply and what it does not imply. The major implications of the hypothesis for corporate financial reporting have already been alluded to in the preceding secting of this article. So an endeavour should now be made to throw some light on what the hypothesis does not imply. The nonimplications are as follows:

- 1. The EMH is concerned with the informational efficiency of the stock market; it has practically nothing to with the do allocational efficiency. It is not at all sensible to believe that informational efficiency does always lead to allocational efficiency. Efficiency in the latter sense involves something more—"it requires the free movement of resources, the absence of impediments to market entry, flexible prices, and many other considerations that go beyond the use of information" (Solomons, 1986, p.204). Efficient allocation of resources occur when no alternative allocation system can make one person better off without, at the same time, making another person worse off. This is referred to in economics as Pareto optimality. If accounting is to contribute to efficient allocation of resources then the evaluation of corporate financial reporting issues needs a perspective much broader than that is provided by the EMH.
- 2. The EMH does not imply that accounting standards are totally useless. Nor does it negate the necessity of subjecting corporate financial reporting to mandatory disclosure requirements. Wyatt (1983), while explaining how accounting standards can be useful even when the stock market is fully efficient with respect to publicly available information, has pointed it out that "the EMH does, in fact, support and enhance the importance of accounting standards setting process based on soundly conceived accounting

standards compared with one based on politically compromised standards" (p. 62). The importance of a mandatory disclosure system lies in the fact that it can contribute enormously towards preventing deceptive and uninformative reporting. When market forces are not sufficiently strong to cause all relevant information to be disclosed, some sort of a regulatory intervention should be there for compelling companies to disclose in their external financial reports the desired sets of information. Regulatory interventions are also needed in order to transform certain types of private information into public information.

- 3. Stock market efficiency does not imply that all those who are participating in the market should believe the market to be efficient. But this does in no way prevent the market from being efficient.
- 4. The fact that security prices fluctuate from day to day should not be construed to mean that this is a sign of market inefficiency. The EMH never says that in an efficient capital market there will be no fluctuations in security prices. It is through changing prices that securities in an efficient stock market constantly adjust to new information. If there were no fluctuations in security prices in a dynamic setting it would then imply that the stock market is not truly efficient in its use of the available information.
- 5. Market efficiency does not imply that the stock market has some sort of a supernatural power to observe objects or things. The efficiency with which the stock market processes the available information is determined largely by the knowledge and experience that the participants of the market have been able to gather. There is no guarantee that an efficient stock market will never react to any type of false information. If the market has no basis for believing a certain type of information to be false, there is nothing that can prevent it from impounding that information into security prices.

Concluding Comments

5

Stock market efficiency has emerged as a very fascinating area of research in the field of accounting. Stock-market-based accounting research is primarily aimed at an examination of the behaviour of security prices with respect to the information which is available to investors. Much research into the informational efficiency of stock markets has already been done and there are indications which tend to

suggest that such research will be more extensive and more penetrating in the years ahead. What is more, efficient stock market studies are no longer a pure academic exercise ; it has already created a good deal of impact on the process of accounting policy making. Accounting policymakers are now inclined to believe that empirical evidence on the informational efficiency of stock markets is capable of providing them with a meaningful basis for narrowing current financial reporting controversies. That stock market research can contribute significantly to the development of useful accounting policies can by no means be denied, but what appears to be objectionable is the adoption of the principle which requires the use of efficient market theories as the sole basis for determining optimal accounting treatments. Although a large body of empirical evidence has been gathered in support of the notion that the stock market is efficient in its use of publicly available information, it cannot still be said that the informational efficiency of the stock market is a universal phenomenon. The stock mark ts that are operating in developing economies often fail to exhibit even the weak form of informational efficiency. Solomons (1986) have very rightly pointed it out that "efficiency in the EMH sense is not a necessary feature of all markets in all places and at all times" (p. 304). Even if the evidence on stock market efficiency were conclusive, it would still be difficult to lend whole-hearted support to the policy of basing corporate financial reporting soley on efficient maeket theories. "Stock markets are important, but they are not the alpha and omega of accounting" (Ketz and Wyatt, 1987, p. 710).

Besides stock market participants published accounting reports have several other users which include creditors, employees, governments and the general public. If efficient market theories are used as the principal basis for the resolution of all controversial financial reporting issues this may then lead to a destruction of the utility of published accounting reports to many nonma.ket users. There are many financial reporting issues that are not much relevant to the efficient stock market; but such issues can be of crucial significance to many nonmarket users of published accounting reports of companies. For example, the efficient stock market does not require companies to adjust their published accounts for the effect of inflation; but inflation adjusted accounts can very much be relevant to those who have no effective mechanism of their own by means of which they can make necessary adjustments to historical cost data.

Information provided by corporate financial reporting systems are used in many countries in connection with planning and controlling aggregate economic activities. Corporate financial reporting systems which are designed to cater mainly to the needs of the efficient stock market can have little relevance for such countries. Such financial reporting systems are also not capable of serving any meaningful purpose in those countries where equity participation in companies is not much significant.

REFERENCES

Abdel-khalik, A. R., The Economic Effects on Leesees of FASB Statement No. 13, Accounting for Leases, FASB, 1981.

———, and B. B. Ajinkya, "Accounting Information in Efficient Markets", in Handbook of Accounting and Auditing, (ed) J. C. Burton, R. E. Palmer, and R. S. Kay, Boston : Gorham & Lamont, 1981.

Archibald, T. R., "Stock Market Reaction to the Depriciation Switch-Back", Accounting Review, January, 1972.

Ball, R. J., and P. Brown, "An Empirical Evaluation of Accounting Income Numbers", Journal of Accounting Research, Autumn, 1968.

Barus, S. K., and V. Raghunathan, "Inefficiency of the Indian Capital Market", Vikalpa, July-September, 1986.

----, "Inefficiency and Speculation in the Indian Capital Market", Vikalpa, July-September, 1987.

Beaver, W. H., "The Information Content of Annual Earnings Announcements", Empirical Research in Accounting: Selected Studies, 1968. Supplement to Vol. 6 of Journal of Accounting Research, 1968.

----, "Market Efficiency", Accounting Review, January, 1981.

-----, and R. E. Dukes, "Interperiod Tax Allocation, Earnings Expectations and the Behaviour of Security Prices", Accounting Review, April, 1972.

Dukes, R. E., "An Investigation of the Effects of Expensing Research and Development Costs on Security Prices", in M. Schiff and G. Sorter, Proceedings of the Conference on Topical Research in Accounting, Ross Institute of Accounting Research, New York, 1975.

-----, An Empirical Investigation of the Effects of Statement of Financial Accounting Standard No. 18 on Security Return Behaviour, FASB, 1978.

Dyckman, T. R., and D. Morse, Efficient Capital Markets: A Critical Analysis, Englewood Cliffs, N. J., Prentice-Hall, 2nd edition, 1986.

Fama, E. F., "Efficient Capital Markets: A Review of Theory and Empirical Work", Journal of Finance, May, 1970.

Foster, G., "Stock Market Reaction to Estimates of Earnings Per Share by Company Officials", Journal of Accounting Research, Spring 1973.

-----, "Valuation Parameters of Property Liability Companies", Journal of Finance, June, 1977.

Gheyars, K., and J. Boatsman, "Market Reaction to the 1976 Replacement Cost Disclosures", Journal of Accounting and Economics, August, 1980.

Gonedes, N. J., "Efficient Capital Markets and External Financial Reporting", Accounting Review, January, 1972.

Grant, E. B., "Market Implications of Differential Amounts of Interim Information", Journal of Accounting Research, Spring, 1980. Kaplan, R. S., and R. Roll, "Investor Evaluation of Accounting Information: Empirical Evidence", Journal of Business, April, 1972.

Ketz, J. E., and A. R. Wyatt, "The FASB in a World With Partially Efficient Markets", in *Accounting Theory* (ed) Schroeder, McCuller and Clark, 3rd edition, Wiley, 1987 (originally published in *Accounting*, *Auditing* and *Finance*, Fall, 1983).

Litner, J., "The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets", *Review of Economics and Statistics*. February, 1965.

Martin, D., P. F. Anderson, and A. J. Keown, "Lease Capitalization and Stock Price Stability: Implication for Accounting", Journal of Accounting, and Finance, Winter, 1979.

May, R., "The Influence of Quarterly Earnings Announcements on Investor Decision as Reflected in Common Stock Price Changes", in *Empirical Research in Accounting*: Selected Studies 1971, Chicago, Institute of Professional Accounting, Graduate School of Business, University of Chicago.

Mossin, J., Equilibrium in a Capital Asset Market", Econometrica, October, 1966.

Okafor, F. O. Investment Decisions, London: Cassell Ltd., 1983.

Pande, I. M., and B. Bhat, "Efficient Market Hypothesis: Understanding and Acceptance in India" in *Stock Market Efficiency and Price Behaviour* (*The Indian Experience*), (ed) O.P. Gupta, New Delhi: Anmol Publications, 1939.

Patell, J. M., "Corporate Forecasts of Earnings Per Share and Stock Price Behaviour: Empirical Tests", Journal of Accounting Research, Autumn, 1976.

-----, and R. Kaplan, "The Information Content of Cash Flow Data Relative to Annual Earnings", unpublished working paper, Palo Alto, Califf: Stanford University, August, 1977.

Rao, N. K, "Stock Market Efficiency: The Indian Experience" in Stock Market Efficiency and Price Behaviour (The Indian Experience), (ed) O. P. Gupte, (1989).

Ross, S. A., and R. W. Westerfield, Corporate Finance, Times Mirror / Mosby College Publishing, 1988.

Sharpe, W. F., "Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk", Journal of Finance, September, 1964.

Solomons, D., Making Accounting Policy, New York; Oxford University Press, 1986 Sunder, S., "Relationship Between Accounting Changes and Stock Prices: Problems of Measurement and Some Empirical Evidence", Empirical Research in Accounting: Selected Studies, 1973, Supplement to Vol. 11 of Journal of Accounting Research.

Vigeland, R. L., "The Market Reaction to Statement of Financial Accounting Standard No. 2", Accounting Review, April, 1981.

Watts, R., and J. Zimmerman, Positive Accounting Theory Prentice-Hall Inc., Englewood Cliffs; N. J., 1986.

Wyatt, B. A., "Efficient Market Theory: Its Impact on Accounting", Journal of Accountancy, February, 1983.

Zaffe, J, "Special Information and Insider Trading", Journal of Business, July, 1974.

Corporate Distress-An Empirical Analysis

-Debasis Bagchi*

Industrial sickness has assumed a very alarming position in India. This study is aimed at an analysis of the dynamics of the disruptive forces that are responsible for sickness in an industrial unit. Five large chemical process units are chosen and an analysis is made of the potential causes of their sickness. The analysis provides findings which induce the author to conclude that distortion of corporate culture is the root cause of corporate failure. It is mainly through the development of a climate of mutual trust between employees and management that an ailing unit can, according to the author, be brought back to its healthy state.

Backdrop

In India, sickness in industry is assuming a serious socioeconomic problem day by day. While efforts are made to arrest the ailment, it seems that the phenomenon still remains unabated. Hundreds of reasons could be identified, which were responsible for sickness in a unit. However, a systematic study to wards identification of reasons and placing them in a sequence which could lead to understanding of the basic nature of the phenomenon has not yet been attempted.

The aim of our research is in that direction and we seek to understand the dynamics of forces which are responsible for ailments of the units. There are several connected issues needing complete clarification in order to interpret the issue of sickness, meaningfully.

Foremost of these are: (1) Why some companies fail, when several other like companies operate successfully, (2) whether there is any definite criterion for failure, (3) whether solution exists in preventing sickness through planned economic reforms, if yes, what are those steps and (4) whether any testable mechanism of corporate sickness is already there or can be formulated.

Contemporary studies of the sickness phen menon in industry on the other hand, have been predominantly concerned with prediction of sickness in individual units. The researchers have used various

^{*} Officer, National Insurance Company Ltd., Calcutta,

mathematical and statistical procedures and techniques in order to predict sickness with some accuracy three to five years before failure. However, normative approaches leading to a 'theory construction' have been meagre and scarcely attempted. The aim of the present study is, therefore, to understand the forces at work that could help in constructing a probable mechanism of the phenomenon, leading to finding a satisfactory answer to the aforesaid questions. The next task is to examine how the mechanism of sickness, or the technology of disruption could be suitably explained by available sets of evidence.

To understand the dynamics of disruptive forces that lead to illness, five large chemical process units have been chosen whose product-mix is divergent, spanning from house cosmetics and pharmaceuticals to basic chemicals.

An in-depth study of these units is expected to bring out the potential causes which are hidden most of the time and are primarily responsible for sickness. All these five units are at present operating as government units. Three of the units were taken over by the government, and subsequently nationalised, while two are government companies from the beginning. Of the three nationalised units, two were previously giant Indian Companies in the private sector and were pioneer in their respective fields, the third one was a foreign company, which had a marketing arrangement with another giant multinational. Out of the two government companies, one has been producing basic chemicals while part of the product range of the other company consists of basic chemicals. The names of the five units are as follows.

- 1. Bengal Chemicals and Pharmaceuticals Ltd. (BCPL)
- 2. The Bengal Immunity Co. Ltd. (BI)
- 3. The Smith Stanistreet & Co. Ltd. (Smith)
- 4. The Durgapur Chemicals Ltd. (DCL)
- 5. The Durgapur Projects Ltd. (DPL)

'BCPL' and 'BI' represent the giant established Indian Companies, which had impressive record of outstanding performance in the past. Subsequently performance deteriorated and they became sick. 'Smith Stanistreet' became suddenly sick. Detailed exploration of these units was expected to reveal fundamental reasons of ailment which were at the root of the problem. Specifically, it would bring out whether the constitution on the composition of management was responsible for ailments or that interaction of several dysfunctional forces were responsible for the sickness, with the management having nothing to do with the situation. Finally, two units of the government sector have been chosen in order to understand how the government companies fall sick.

In order to make the comparison more compatible, the units selected are of somewhat same size and the private sector units are roughly of same age. All these units have similar operational territory.

Reasons for Sickness

The examination of the units has brought out several causes. Some of them are common to all units, while some are unique and can only be traced to individual units. The common causes as revealed by the study are :

- (a) Cultural distortion.
- (b) Relatively static behaviour and failure to change vis-a-vis the changing external environments.
- (c) Failure or misdirected diversification with scant attention to research and development functions.
- (d) Demoralised and discontented work force and high labour cost.
- (e) Weak marketing function.
- (f) High leverage position.

The specific or unique causes which have been identified, are as follows :

- (a) Fraud and misfeasance.
- (b) Faulty project planning and improper transfer of technology.
- (c) Political interference.

While comparing causes for sickness in government units vis-avis private sector units, it transpired that an additional major cause of sickness in the former units was their vulnerability to infection by the virus of dysfunctional culture prevailing in other government sector units. This cultural disease was the nonaccountability and demotivational forces at work on the employees serving in the government units. In addition, the political intervention in their smooth and efficient functioning was found to be an important cause of ailment in the government units.

Operation of the Mechanism of Sickness

Having isolated the reasons for potent sickness, an attempt has been made to construct a mechanism that accounts for development of sickness in a unit. It is relevant to consider the definition of 'sickness'. In contemporary literature, the word 'sickness' has been defined in various ways. Apart from actual failure, sickness is linked to cash loss, or even failure to pay debt servicing charges. These definitions do not adequately explain the phenomenon. Considering all aspects of the phenomenon, direct linkage with the negative growth in real terms would be a more acceptable definition of the phenomenon. Accordingly, the healthy state is characterised by positive or. at least zero growth in real terms. Staying in healthy state is to a great extent dependent on the nature of culture of the company. New products and changed consumer preferences give rise to different modes of competition. To survive in such a situation, a unit has to adjust itself swiftly and continuously with the changing pattern of competition. An organisation culture which catalyses or induces a unit to cause such an adaptation, is the one conducive for a unit to stay healthy. On the other hand, if the culture fosters a rigidity towards changes or impedes the required process of adaptation, the unit is likely to succumb to the challenges posed by its competitors or by the external environments, leading to ailments. The rigid internal atmosphere with falling performances, directs the management's concern towards reducing cost. Low preference is given to increase of revenue, resulting in further increase of conflict and of disorder. Soon, sales stagnate and, with increase in cost, profit declines. The unit at this stage enters into a permanent sick phase. The sick cultural attitude hinders effective remedial steps. If the unit is small, a short period is sufficient for its collapse; for a giant unit, the collapse takes a little time. The negative growth in real terms paves way ultimately to negative growth in absolute terms. With rising cost, the unit starts incurring loss, and ultimately cash losses. At this juncture, even a normal business hazard may become a major disaster for the unit that leads to its ruin.

A unit is constantly threatened by the external economic forces characterised by change of consumer tastes, government policy towards industry, entrance of competitors, etc. Sweeping changes are necessary via diversification or changes in corporate strategies to withstand the onslaught of such forces. In this regard, the prevailing culture of the unit plays a crucial role. If the culture of the unit comes in the way of initiating change, responsive to changing external environment, it would remain vulnerable to untoward economic forces. During the unit's transition from healthy to sick phase, internal strains become obvious. The stress is strong enough to tilt its operational balance, creating disorder and dwindling performance. Finally, the unit collapses.

Behaviour of information measures and financial ratios are examined in order that the operation of the mechanism is empirically supported. The information theory implies that for every event there are two sets of probabilities, one before the reception of the message as to the state of the event and the othet after it. When information about the event is received, its original probabilities relating to numerous states of its happening may undergo transformation. The knowledge of this transformation permits measurement of the amount of information contained in the message that induced these changes. Applying the information theory to the phenomenon of sickness, the magnitudinal changes of the information measure with time and with the advent of sickness are examined. These changes are compared with the information measures of a healthy company belonging to the same industry group approximately of same size and roughly of same age.

The information measure is usually expressed as the expected information content of the message and is denoted as the entropy of the distribution. It is defined as :

 $-p \log p - (1-p) \log (1-p); o \le p \le 1.$

where the probabilities of the message stating occurrence of the event is p and non-occurrence of the event is (1-p).

Investigation of the behaviour of the entropy values as applied to sickness phenomenon shows that with the advent of sickness in a unit, the values undergo comparatively larger changes than those of its healthy mate. Downward and upward trends are also marked by wider changes in value, while healthy unit with modest performance shows comparatively low values of entropy. Wide fluctuations in values are indicative of severe internal strains and stresses.

Further examination reveals that in case of a perennially sick firm where the ailment is quite old and chronic, the information measure has been observed to be rather stable and has a value similar to that of its healthy mate. This is indicative that the unit was hardly taking any step towards recovery. Durgapur Chemical is a case in point. From the very inception the unit bacame sick. It was running with the periodic infusion of funds by the State Government and it hardly took any step to nurse the unit back to a healthy state. This condition is faithfully reflected in information analysis. For several years, the information measures did not change widely in their values except occasionally, when the capacity utilisation increased.

6

The values of information measure for different companies are given below :

 $(I \ge 10^{-4} \text{ in nits})$

_	Name of the company					
Year	BCPL	BI	SS	DCL	DPL	
1961-62	52,3600		· · · · · · · · · · · · · · · · · · ·			
62 - 63	2.4340					
63-64	4.0051		3.9000			
64-65	1.6 4 43		5.0323			
65-66	1.7103		11.1052			
6 6-6 7	1.504 0		9.6888			
67-68	25.1831*		2.1542			
68-69	6.7293		10.1280			
69-70	24.9273		31.1262			
70-71	62.7862	4 3200	308.8 597*			
71-72	28.5951	3. ~7 65	453.8868	49.6300		
72-73	36.9472	4.2446	687.9128	5.1435		
73-74	10.2182	24.8993*	1.4446	91.9684		
74-75	62.0221	15.6206	6.1981	91.8792	2.7900	
75-76		6.6855		63.5123	0.5900	
76-77		5.5480		8.6291	77.2590	
77-78		• • •		5 2. 5409	31.0720	
78-79					5 5.1640	
79-80					22.1000	
80-81					28.7610	
		C ¹ 1	1.			

• Sick phase began

The behaviour of information measure as observed for different companies is narrated below. These properties have been suitably analysed, in order to assess the validity of the hypothesis on corporate sickness.

Bengal Chemical

The information measures of the 'Bengal Chemical' appeared highly informative. As far back as five years prior to sickness, the information measures gave signal of 'something wrong'. It was during this time that the company experienced the trouble of stagnant growth in real terms and sign of impending ailment was writ large on the operational horizon of the company. The information measure was observed to reduce drastically from 52.36 in 1961-62 to 2.434 in 1962-63. During the subsequent years, the economic condition of the unit had hardly improved. As characterised by matured sickness trajectory, the company's performance reached a plateau, which was also reflected in the information measure values, when it was observed that the values remained approximately at the same level during the years from 1963-64 to 1966-67. The magnitudes of the information measure hovered between 4.0051 and 1.504 during the aforesaid years. The unit, though earned profit in 1967-68, registered a stagnating sales and thereby entering a period characterised by nagative growth in real terms. Such changes were also observed in information measure values truthfully. These values underwent a drastic change from 1.504 to 25.1831. In 1968-69, when the situation did not improve, but negative growth was more pronounced, the values also fluctuated markedly.

As the sickness became more pervasive afterwards, the change was also more pronounced in 1969-70, compared to 1968-69. The unit thereafter began its downward journey, never to revive. The similar erratic fluctuations were also observed in the values of information measures.

Bengal Immunity

The information measures were stable upto three years prior to the beginning of the sick phase. It shows that the unit did not apprehend the impending danger and did not try to improve its health. The stability of information measure corresponded to the matured failure category. The performance of the unit reached a plateau and had not improved during the period. Subsequently, as the sales declined, indicating the start of sickness in 1973-741 there was five times increase in the value of information measures, with respect to previous year's information value. The internal balance of the unit was, therefore, adversely affected, which conformed to the view that the dysfunctional forces could throw the unit off balance'. During the second year of its ailment (1974-75), the sales were observed to decline further. It was also observed from the value of the information measure that it changed likewise. Similarly, in 1975-76, when the company tried to reverse the trend and its sales had gone up steeply, there was also a sharp change in the value of information measure. In 1976-77, when there was again decline in total sales, the aggregate value of the information measure remained approximately at the previous level, which confirmed that during the period the company was not able to reverse the falling trend.

Smith Stanistreet

That the information measure could be an appropriate predictor of business events could be best demonstrated by studying behaviour of the information measure on illness of 'Smith Stanistreet'. The

qualitative analysis earlier pointed out that the sickness of the 'Smith Stanistreet' was sudden and malignant; it was primarily due to fraud and misfeasance by the management. The information measure was observed to vary in accordance with our findings. Upto the period ending between 1963-64 and 1968-69, the information measure did not fluctuate widely, but remained within a narrow limit. During this period, the unit showed satisfactory performance. The trouble began in 1969-70. The information measure began to move, from the year 1969-70 and during the year 1970-71, its magnitude jumped to a very high value signifying thereby that a severe strain had developed in the unit. In subsequent years, i.e., 1971-72 and 1972-73, the information measure was observed again to be of high values. The fact underlines that the strain that developed earlier showed no sign of abatement; contrarily it progressively increased. Qualitatively, it was found that during this period, the unit was taken over by another management and complete changeover of managerial outlook took place. The corporate culture prevailing in the unit took a sharp turn and paved the way for disintegration. Subsequently, when the unit was taken over by the government the information measure steeply declined to a very low value. The behaviour signifies that added strain had developed in the unit, presumably for arresting the deterioration of already rundown health of the unit. But the value of information underlines that there had been no reversal of the position. In fact, it was found in the qualitative analysis that the unit would not turn the corner. even if it was taken over by the government and placed under the IDPL for commercial operations.

Durgapur Chemical Ltd.

The information measures showed highly scattered values for this unit. Although the trend is random in pattern, a close examination reveals a 'point of concern' in the performance of the company. For instance in 1975-76, the value of information measure was 63.5123 and it was reduced to 8.6291 in 1976-77. Closer examination revealed 25 pet cent decrease in sales in 1975-77, with no derease in total cost, thereby increasing the loss. Again in 1977-78, the information value was observed to increase further to 52.3409. Here also there was further loss of sales aggregating more than 10 per cent, with only less than 3 per cent decrease in cost. The behaviour of the information measures as underlined in the foregoing paragraph, is expected since the unit that been sick from its very inception. In the circumstances, the information measures could hardly give immediate indication about the state of health of the unit in terms of changes as in the earlier cases. Nevertheless, the measures confirmed that the unit was under constant and severe strain during the period under study. In fact, the earlier qualitative analysis had established that the unit could not take proper and effective steps to nurse itself to a healthy state and that it only languished on the verge of subsistence till now with the periodic cash doles from the government.

Durgapur Projects Ltd.

The fact that the information measure could bring about more knowledge about sickness could be additionally demonstrated by studying the performance of the Durgapur Projects Ltd. The DPL had made profits during the years 1976-77 and 1977-78 while loss in other years. In 1976-77, the change of the information measures had been very marked as the ailment had been temporarily abated during the year. However, in 1977-78, when the company again earned profit, which was drastically reduced in respect to profit earned during the previous year. The characteristic effects were also reflected in the magnitudinal change in information measure. In 1978-79, there was a sharp increase of the information measure value, confirming that the health of the unit had been affected. During the year the company again incurred loss. Since the information measure could not forecast the direction of changes, it could not be ascertained whether the company's fortune was affected downward or upward. However, looking at the financial performanace of the company it could be definitely established that the unit's performance had declined and it again entered into the sick phase during the aforesaid period. In the year 1979-80, the information measure underwent a steep decline, signalling the changes in the expenses pattern. As the condition had hardly changed in the year 1980-81, the information measure did not change appreciably and remained somewhat static at the previous level, as expected.

The hypothesis formulated was that corporate illness is due to a change of corporate culture wherein internal strain is generated which is enough to pull the unit off-balance and is primarily responsible for the collapse of the unit. Clearly, the pattern of values as expressed by the information measures proved that internal strain developed in the unit. Though it would not necessarily lead to the logical consequence that the internal strain was responsible for collapse ; nevertheless, based on our findings from the qualitative analysis, it could be distinctly established that downfall of the sample units was symptomatically linked to the relatively wide fluctuation of information values over time, thereby confirming, inter alia, that distortion of corporate culture was the root cause.

Similarly, financial ratios can throw much light on the performance of the company. The financial ratio is defined as a ratio which shows relationship between two sets of variables obtained from various financial statements. The variations of the ratios along the path of sickness of a unit and differences of pattern of the variations reveal interesting issues. Incidentally, the first step towards ratio analysis is to select a couple of ratios according to the need of the situation from a vast number of available ratios. The ratios for the present study have been selected on the basis of data availability, reasonableness and general acceptability. Those ratios which are known to have good predictive values as revealed in earlier studies are also taken into consideration. On the aforesaid basis, the following ratios are examined for finding out their movements during the sickness phase.

Profitability Measures:

- Net Profit / Sales. (1)
- (2) Net Profit / Net Worth.
- (3) Net Profit / Net Working Capital.
- (4) Net Ptofit / Fixed Assets.
- (5) Net Profit / Total Assets.

Activity Measures :

- Sa'es / Net Worth. (1)
- Sales / Net Working Capital.
 Sales / Inventory.
- (4) Cost of Sales / Inventory.

Liquidity Measures:

- (1) Current Assets / Current Liabilities.
- (3) Ouick Ratio.
- (3) Inventory / Net Working Capital.

Indebtedness Measures :

- Fixed Assets / Net Worth. (1)
- Times Interest Earned. (2)

The aforesaid ratios are subjected to several statistical significance tests. These tests are 't-test', regression analysis and mean / standard deviation analyses, via F-test.

The 't-test' is applied under three specific conditions, viz.

t₁=Sample unit (Healthy phase)-Health mate (Corresponding period).

t₂ = Sample unit (Sick phase)—Healthy mate (Corresponding period).

 t_8 = Sample unit (Healthy phase)—Sample unit (Sick phase). Next, the regression analysis is applied to the ratios and the behaviours of the residuals are investigated.

Finally, the F-test is applied. The test is carried out under two distinct conditions, viz,

- F_1 = Where the null hypothesis is that there is no significant difference of variances of the individual ratios during the healthy and sick periods of the same unit.
- F_2 = Where the null hypothesis states that there is no significant difference of variance of the sick unit compared to that of the healthy unit during the same period.

The ratios isolated from the various statistical significance tests as told above, can be summarised in the table below :

RATIO		found significant in					
		t-test	Regression analysis	Mean	Standard deviation		
Profitab	ility Measures :						
(1)	Net Profit / Sales						
(2)	Net Profit / Net Worth						
(3)	Net Profit / Net			¥			
	Working Capital	√	\checkmark	く			
(4)	Net Profit / Fixed	,	.1				
(5)	Net Profit / Total	~	Ŷ				
	Assets	ノ	\checkmark				
Activity) Measures :						
(6)	Sales / Net Worth			\checkmark			
(7)	Sales / Net Working	1	•/		,		
(8)	Sales / Inventory	ž	•	× J	~		
(9)	Cost of Sales /				~		
	Inventory	√			\checkmark		
Liquidit	ty Measu res :						
(10)	Current Assets /						
(1.1.)	Current Liabilities						
(11)	Acid-test (quick) Ratio			,			
(12)	Inventory / Net			~			
. ,	Working Capital			√			
Indebtedness Measures :							
(13)	Fixed Assets / Net						
(1.4)	Worth	L		√			
(14)	I imes interest carned	- <u></u>			~		

From the table, one ratio, viz., Sales / Net Working Capital, is found to be significant in all the tests of significance. Therefore, this ratio must have undergone the maximum distortion in its values as between the sick and the healthy phases. The ratio belongs to activity measure and is expected to show operational efficiency. alternatively the managerial competence of the unit. As the ratio undergoes significant transformation, it would mean that operational managerial efficiency has also changed significantly. The or mechanism of corporate sickness, on the other hand, pinpoints the same aspects. Relaxing the standard, two more ratios, viz, Net Profit / Net Working Capital and Sales / Inventory are found to be significant under all the three test conditions. They belong to profitability and activity measures respectively. Since profitability parameter also shows the operational efficiency of the firm, it provides an additional support for the theory. The above result also confirms that the liquidity and indebtedness parameters are of secondary importance. The same fact is also highlighted in the corporate sickness mechanism. Further, as emphasised in corporate sickness mechanism, the ratio analysis also reveals that the firmspecific variables are responsible for sickness of unit rather than macro-economic variables. These appear significant and out of line with current official and non-official thinking on the subject.

Accordingly, the theory of corporate sickness that has been constructed on the basis of qualitative analysis of the firms, has been observed to have empirical support as well.

Recommendations

The analyses so far done would help in formulating and implementing a nursing program of an ailing unit and also help in the aspect of framing a pragmatic policy by the government in combating sickness in industry, the dimension of which has been growing over the years.

So far the governoment policy has been oriented towards nursing at the unit-level. The banks and financial institutions are advised to identify the sickness at the incipient stage itself for better effect.

To encourage revival of the units several concessions are given. Tax relief and liberal finances are important aspects of such concessions In addition, there are several legislations which are designed to protect the sick units from the onslaught of other hostile forces. However, a long-term policy of the government aimed at reducing the sickness in industry is still awaited. The reason lies in the fact that contemporary business environment is so complex that framing of such a policy is rendered very difficult. Nevertheless, government can suitably guide and control the activities of the sick units and can help them in their efforts for survival.

Various economic policies towards different sectors of economy are launched by the government from time to time. Their true impact on the economy could not be evaluated or monitored properly. Particularly, secondary and tertiary effects on the economy as also how far their impact creates sickness generating forces could not be estimated correctly on macro basis. Since such an evaluation is a long-drawn process and the regulating machinery of the government is still in idequate to monitor the outcome of its economic policies. any definite and pragmatic policy on sickness is difficult to formulate at the present moment, at the macro level. Moreover, it is difficult, if not impossible, to predict secondary and tertiary effect of various economic policies. The cumulative effect is so complex that attempts to predict the course of events in advance would appear to be of only academic interest. Thus, a testable theory on corporate sickness is difficult to formulate, while large scale sickness continues unabated.

It is apparent, therefore, that the government would have to act within a rather restricted framework. A restricted framework would mean combating sickness at micro level, or nursing at the unit level. The choice of the government should, in the circumstances, be the selection of units whose failure would cost the society dearly, so that the intervention as a rescuer is justifiable.

It has been observed that the taken-over units are largely dependent on the benevolence of the government and are observed to stay alive by infusion of funds periodically to compensate their cash loss arising out of the operations.

The primary reason for sickness of a unit, it is argued in the foregoing chapters, is distortion of corporate culture and consequently, stagnancy of its operations. In all the sample units, finance has created not that big a problem and has rather played a second fiddle to the other major reasons. Only at an advanced stage of sickness, the units started facing the troubles with finance. Moreover, during the period of nursing, infusion of large doses of funds has not been able to put a unit back to its healthy state.

7

Accordingly, too much emphasis on finance and leaving the nursing program to the banks/financial institutions would not be sufficient for revival of an ailing unit.

Further, one of the major causes of the illness is the lack of response to change. It follows that simply by taking over the management, desired changes cannot be induced in the corporate affairs. What is required at this juncture is a set of comprehensive reforms and installation of professional management.

Once a thorough change has been effected in the management hierarchy, the environment should be conducive to bring about a change in the prevailing sick corporate culture of the unit A climate of mutual trust has to be built up between the employees and the management. The employees are to be educated that their job security and well-being would automatically prevail in a situation of healthy growth of the company. Simply take-over by the government would not entitle them to such benefits.

Only a very careful and competent management could infuse such a cultural identification. It is, however, much easier to bring about the aforesaid changes in merger or amalgamation with or adoption by a healthy company The healthy culture that prevails in the parent company would be instilled into the ailing adopted unit. Comparatively little efforts would be required in this direction to bring about such a change, because the corporate personality of the parent company in such a case would catalyse the induction process.

Public Sector Enterprises and Corporate Accounting in India

-Dipti Kumar Chakraborty*

This paper is designed to discuss the role that public sector enterprises (PEs) can play in the development of corporate accounting in India. It first examines the importance of PEs in Indian economy and then evaluates the practices currently being followed by such enterprises in the matter of financial accounting and reporting. Finally, it provides an analysis of how PE accounting can contribute towards an upliftment of the standard of corporate financial reporting in India.

1. Introduction

The principles and procedures of corporate accounting, that we find today in India, have been outlined mainly by governmental agencies on the one hand, and the professional institutes on the other. Nevertheless, it is now felt that public sector enterprises (PEs) in India have also a very important role to play in the development of corporate accouting in the country. The re son behind this feeling may be that the PEs adopt several new techniques of accounting and reporting over and above those required by law or by professional institutes of India. Since PEs have to work under the supervision and control of some regulatory agencies like Bureau of Public Enterprises (BPE), Committee on Public Undertakings (CPU), Comptroller and Auditor General of India (C & AG) and so on, the initiative taken by them might have led to the adoption of these new techniques of accounting. But what has happened in consequence is that the corporate accounting as a whole has been enriched with them. The object of this paper is to highlight these 'new horizons of accounting' developed mainly for PEs and to ascertain the extent to which they have their bearing upon the corporate accounting as a whole. For the purpose, the importance of PEs in Indian economy will also be touched upon in this paper. Before that, it will be, perhaps, pertinent to write a few lines on the concept of PEs in India. This is as below.

^{*} Lecturer in Commerce, Mahishadal Raj College, West Bengal

2. Concept of PEs in India

The PEs are now widely used in almost all the countries of the world as a powerful instrument in the armoury to achieve desired economic growth. But in spite of this reality, there does not appear any internationally acceptable authoritative definition of them as yet. For example, in USSR "the industry, commerce, communication, transportation, publishing and even recreation... are conducted through public corporations";¹ but in USA their "scope is limited to enterprises to aid private enterprises, promote socially desirable but unprofitable activities, fields where private enterprises are unsatisfactory and activities incidental to government functions".² In UK, again, the official objective is to "have common ownership of all the means of production, distribution and exchange"; and in China private economy has been assigned a definite role, giving the leading role for national welfare to the sector of state economy.⁴ In Korea, on the other hand, it has been urged that 'the private ownership should be unconditionally encouraged except in cases where it is necessary to control it to stimulate national development".⁵

These imprecisions in the object of PEs in different countries, the inability to draft suitable legal provisions governing the functioning of these enterprises and the complications in the synthesis of major economic objectives with the concept of democracy are, possibly, the factors that have stood against the possibility for the formulation of an internationally accepted conceptual framework for PEs. As a result, the PEs in international level has been, as if, a general term that masks very different realities. It is, practical, a "neat level for a very untidy concept",⁶ and is meant what its administrators and politicians like to make it. "An empirical survey even if made with the purpose of generalisation of principles becomes also therefore confusing and unhelpful at the outset".⁷ Notwithstanding, it may, perhaps, be said in general that "the term 'public sector enterprises' is used to denote those services provided by the State, whether through the machinery of Central Government or otherwise, which provide essential services for civilised life but which are not simply governmental or regulatory in nature".⁸ The private enterprises, on the other hand, refer to economic and social activities performed under individual or group ownership within the general framework of

regulatory laws and rules. The term 'public sector' is also sometimes used to mean the aforesaid economic or social activities undertaken by governments. But, as an organisational entity, the terms 'public sector' and 'PEs' are not synonymous in India, as the former has relatively wider connotation and includes (i) Departmental Undertakings and (ii) Statutory Corporations, over and above the PEs. For our purpose, we have, however, taken into consideration the accounting practices of PEs only and have excluded the discussion on other two forms of public sector. This is so because Departmental Undertakings follow government accounting, which, being on a purely cash basis, is unsuitable for commercial accounts,⁹ and Statutory Corporations normally follow the financial and accounting provisions of their respective Statutes that, in order to suit their respective needs, may not always be in conformity with the general accounting practices of the country.

3. Importance of PEs in Indian Economy

Importance of PEs in a developing country like India need not. perhaps, be clarified in detail, since "PE plays always an important role in developing countries, in as much as it helps in capital formation, in fuller utilisation of natural resources, and in achieving a more equitable distribution of income and welath".¹⁰ It is also claimed that "in any under-developed country committed to planned economic development, it is through public sector investment that the rate of economic growth can be raised above that which is possible under the free and unplanned play of economic forces".11 Due to this. Pandit Jawaharlal Nehru recommended in 1956 that "in India all industries of basic and strategic importance and in the nature of public utility services should be in the public sector".12 On the basis of this statement as well as for the adoption of 'socialist pattern of society' as a national goal, the Five-Year Plans of India have always established rew public sector undertakings and invested therein increasing amount of capital. In Table I we have depicted clearly how the number of PEs and investment therein have increased by leaps and bounds to attain the 'commanding heights' of Indian economy. Besides 221 Central Public Enterprises, there are about 225 Departmental Undertakings under Central Government and 800 public enterprises under several State Governments and Union Territories. They

together now dominate the industrial infrastructural scene of Indian economy consisting of coal steel, power, petroleum, non-ferrous metals, fertilisers, communication equipment etc. Heavy Engineering, Medium and Light Engineering, Chemicals and Pharmaceuticals, consumer

TABLE I

Number	of Cer	itral H	PEs	and	Inv	estment	therein
	in S	everal	Fiv	e-Ye	ear	Plans	

At the commenc- ement of	No. of enterprises	Total investment Rs. in crores
First Plan (1.451)	5	29
Second Plan (1.4.56)	21	81
Third Plan (1.4.61)	48	95 3
Fourth Plan (1.4.69)	85	3902
Fifth Plan (1.4.74)	122	6237
Sixth Plan (1.4.80)	186	18225
Seventh Plan (1.4.85)	221	42811

goods, transportation services etc. have also been covered mostly by PEs. Hence, it is said that "the PEs in India have been gradually occupying a key position in the national economy"¹³ and "Indian economy would sink or swim depending upon the efficiency with which these enterprises operate."¹⁴

Having compared the volume and activity of PEs with that of corporate sector as a whole, we may also establish the indispensability of PEs in India. In Tables II and III we have attempted to do this. From Table II it is quite clear that in respect of volume, the PEs are securing gradually a significant position in corporate sector. They now occupy nearabout 80% of the total paid up capital of corporate sector, and balance 20% only have been left for private sector. What more is evident from Table II is that on 31st March, 1965, the share of PEs in total corporate capital was only 39. 2% and on 31st March, 1986, i.e., only after 20 years that has been made double. Accordingly, it is quite imaginable how the PEs have been given increasing weightage over time and how they have been allowed to attain leadership in Indian economy.

TABLE II

Paid-up Capital Position of Public and Private Sector Enterprises

Year	Total paid up capital	% to total		
(as on 31st March)	(Rs in crores)	Public	Private	
1965	2842.9	39.2	60 8	
1970	3978.3	43.8	56. 2	
1975	8200.8	60.6	39.4	
1980	14606.6	68.9	31.1	
1°85	2 828 5 5	79.4	20.6	
1986	31943 3	79.1	20.9	

Source : Company News and Notes, January, 1987. Results computed.

TABLE III

Public Sector Contribution in Total Industrial Production in 1986-87

	Total	Share of PEs.		
Nature of products	production	Quantity	%	
Fuel				
Coal (Million Tonnes)	165.79	161.99	97.71	
Lignite "	9.60	9.60	100.00	
Petroleum "	30.46	30.46	100.00	
Basic Metals (Millon Tonnes)				
Steel got	9.09	6.84	75.23	
Saleable Steel	8.22	6.31	76.80	
Non-ferrous _l				
Aluminium (Thousand Tonnes)	257.27	96.52	37.52	
Copper "	37.96	37.96	100 00	
Primary Lead ,,	19.93	19.93	100.00	
Zinc	7 6.36	66.38	86.9 3	
Ferti liser				
Nitrogeneous "	5410	2514	46.47	
Phosphatic "	1660	553	33.61	
Teleprinter (Nos)	8654	8654	100.00	
Source : Public Enterprises S	urvey, BPE, 19	85- 86, Vol . 1	[. р. 8.	

Table III has clarified the commanding role of PEs, possibly, in a better way. It is true that the number of private sector enterprises in India is 121139 at present, and that of PEs is only 1020.¹⁵ Nevertheless, it is mainly through the efforts of PEs that the country is now nearly self sufficient in the production of steel, fertilisers and many other products. In many cases, the percentage of PEs contribution to total production is 100% (see Table III). In some spheres, however, the share of public sector is relatively low. But this is so because those areas have mainly been left for individual or group ownership, keeping particularly the critical groups of industries within the jurisdiction of PEs. In spite of that it is interesting to note that the share of public sector in the total net domestic product has gradually gone up year after year, and that of private sector has proportionately declined.¹⁶

If measured by their profit generation in relation to the capital employed therein, the role of PEs is, however, found to be quite disappointing. A reference to percentage of gross profit to capital employed of operating PEs during a five year period, 1981-82 to 1985-86, shows that it is in the vicinity of only 12%.¹⁷ But, firstly this has to be viewed against the multi-dimensional objectives of PEs. Secondly, one should take into consideration the fact that PEs have been functioning in diffenent segments of industries, low yielding and high yielding, and facing divergent constraints. They have been, again, instrumental in matters like development of backward regions. provision of public utility services at a subsidised rate, selling basic inputs at administered prices, providing medical, educational and many other facilities for their employees, which all have made it difficult for them to earn profit. So, profit alone should not be treated as the yardstick in judging the importance of PEs. Rather, it is to be judged by its overall contribution for the cause of national prosperity, some of which have been pointed out clearly in Table III. Besides that, the PEs have also a creditable contribution to the creation of greater employment opportunities, and this is undoubtedly a very significant factor in measuring the role of a particular type of business enterprise, especially in countries like India where unemployment problem is always a burning question. Last Census report reveals that the number of persons employed in the organised sector at the end of March, 1980 were 281 lakhs, out of which 188 lakhs, i.e. roughly

2/3rds were in the public sector.¹⁸ Moreover, the PEs have to take up many sick industries from the private sector mainly for the protection of employees. In view of all this, perhaps, the PEs in India are now considered as a necessity, and not as a matter of choice.

Because of this important role played by the PEs, the enterprises in the private sector are gradually being turned into the subordinates of the former. The situation is such that the private enterprises have to depend now on PEs for many inputs including finance. For example, the business families which manage giant private businesses do not even have now the personal and family financial stakes of more than 10%. Public financial institutions are the suppliers of balance 90% finance to them.¹⁹ As a result, private sector enterprises have to fulfil many organisational and measurement criteria set by public sector. Accounting techniques followed by PEs have in this way been adopted now in private enterprises, though the latter is not statutorily bound to follow such techniques. Hence, it is said that the PEs h ve some contribution in the development of corporate accounting as a whole. However, in the following paragraphs, we have dealt with the accounting practices followed by PEs and have tried to estimate their influence on the accounting of private sector, nay of corporate sector as a whole.

4. Accounting Practices of PEs in India

"Most of the PEs in India are incorporated under the provisions of the Companies Act."²⁰ Thus, there is apparently no difference between the PEs and private sector enterprises with respect to their preparation of accounts in compliance with statutory provisions. Provisions of Sections 209-23 B of the Companies Act, 1956 are equally applicable to PE accounting as they are in respect of the companies in private sector. But, in addition to that the PEs, unlike their counterparts in private sector, have to comply with various rules and guidelines issued by BPE and such other governmental agencies, as they have to oparate within the overall supervision and control of these agencies. The PE accounting is, again, subject to the scrutiny of a parliamentary Committee, known as Committee on Public Undertakings (CPU), that has the right to examine all reports and

8

accounts of PEs, including the reports of C & AG on PEs.²¹ Accounts of PEs are to satisfy this Committee that—

- "(a) the monies shown in the accounts as having been disbursed were legally available for and applicable to the service or purpose to which this has been applied or charged;
 - (b) the expenditure conforms to the authority which governs it; and
 - (c) every re-appropriation has been made in accordance with the provisions made in this behalf under rules framed by the competent authority."²²

Moreover, "the audit function in PEs is expected to be much more than a mere financial audit since it is presumed to assist parliamentary supervision on them."²⁸ Unlike in case of private enterprises, the auditors are appointed in PEs by the government. The Comproller and Auditor General of India (C & AG), again, prescribes the manner in which the audit functions of PEs will be carried out.²⁴ He has also the authority to conduct test audit on the accounts of selected PEs and submit reports thereon to the President of India.⁴⁵ Due to all these, perhaps, the companies in the public sector have to provide much more information to the users than what is done by their counterparts in private sector. Accordingly, Value Added Accounting. Inflation Accounting, Human Resource Accounting, Social Accounting etc. are gradually gaining popularity to many of the PEs in India,²⁶ though most of the private enterprises "still publish in their annual reports only the statutory minimum."²⁷

Recently, there has been, again, a phenomenal growth in the investment and operation of PEs with consequent increase in informaticn need for resource management, accountability, audit, evaluation and external reporting.²⁸ In view of this, the Government of India issued circulars in 1968 suggesting that annual reports of PEs should contain—

- '(a) a summary of financial results,
- (b) increase in paid up capital, long-term loans etc,
- (c) important changes in pricing policies,
- (d) changes in accounting methods,

- (e) main events which have influenced production and profitability,
- (f) general order book position and production performances vis-a-vis capacities and targets,
- (g) export achievements,
- (h) achievements in import substitution,
- (i) employer-employee relation,
- (j) special problem affecting production,
- (k) a brief view of the future planning, and
- (1) a brief summary of the operational results for the last three years."

Besides that, the Government of India also appointed several ad hoc committees on PEs like Action Committee, Fazal Committee. Iha Committee and Sengupta Committee to have recommendations on the organisational and managerial problems of PEs. Among them, the Sengupta Committee is the most relevant to our purpose, as it suggested that "a Group consisting of representatives of C & AG. professionals in the field including public enterprises and BPE should be formed without further delay to evolve accounting polices for public enterprises".²⁹ In pursuance of the above recommendation of Sengupta Committee, a 'Committee to Evolve Accounting Policies for Central Public Enterprises' was set up under the chairmanship of K. V. Ramakrishnan. The Ramakrishnan Committee, while evolving the accounting policies for Central PEs, went into the details of various accounting standards, guidance notes and statements issued by the Institute of Chartered Accountants of India (ICAI). and recommended (in December, 1986) adoption of those standards on compulsory basis subject to certain 'additions and amplifications' which the Committee found necessary to make them more suitable for public enterprises. As such PEs have now got some specific guidelines for the accounting and reporting of many of their controversial transactions and events. These may be discussed in brief in the following way.³⁰

41. Disclosure of Accounting Policies in PEs

As regards disclosure of accounting policies in PEs, the Committee recommended that the PE policies should be subservient to accounting standards of ICAI. Thus, in fact, the policies brought out in Accounting Standard No. 1 have been recommended as a basis for disclosure of accounting policies in PEs. In additio⁻, the Committee gave a list of Major areas with respect to which the accounting policies must be disclosed.

42. Prior Period and Extra-ordinary Items and Changes in Accounting Policies'

As regards the disclosure and presentation of prior period and extraordinary items, the Committee recommended the adoption of Accounting Standard No. 5 of ICAI. But with respect to changes in accounting policies, the Committee did not accept the policies of ICAI in full. The ICA¹, by its AS 5, permits a change in accounting policies under the following circumstances, viz,

- (a) if the adoption of a different accounting policy is required by statute; or
- (b) for compliance with an accounting standard; or
- (c) if it is considered that the change would result in a more appropriate preparation or presentation of the financial statements.

But the Committee felt that the clause should be made a little restrictive. It suggested that changes in accounting policies with reference to a more appropriate preparation and presentation of financial statements, as is mentioned in (c) above, may be referred to the Standing Committee of BPE before they are implemented by any PE. This is undoubtedly an attempt to bring harmony in the accounting of PEs. Possibly, with the same object in view, the Committee also prescribed two illustrative lists – one for prior period items and other for extraordinary items.

4.3. Changes in Financial Position

For a better understanding of the affairs of an enterprise, the Committee accepted the proposal of ICAI for identifying the movements of funds during the year and their subsequent effects on the financial position. But while in Accounting Standard No. 3 a number of alternative formats have been accepted for the purpose, the Committee felt that there should be only one form for PEs. Such a format has also been prescribed by the Committee.

44. Contingencies and Events Occurring after Balance Sheet Date

In this case, the Committee recommended that all PEs should adopt Accounting Standard No. 4 as a basis for showing contingencies and events occurring after balance sheet date. But considering that in respect of liquidated damages arising from contracts and disputed tax liabilities, the accounting treatments vary considerably from PE to PE, the Committee further recommended that :--

- (a) a liability for liquidated damages should be provided for if it has accrued legally and a reasonable estimate of the amount of resulting loss can be made;
- (b) a gain on account of liquidated damages receivable should be accounted for only if its realisation is virtually certain;
- (c) all the claims should be treated as contingencies unless a decision in a similar case is available in support.

In addition, the Committee prescribed two illustrative lists - one for contingencies and other for events occurring after balance sheet date, probably to help prevent inadvertant omission or willful concealment of events. Greater and uniform disclosure to the users has no doubt been possible thereby.

4.5 Revenue Recognition

Having based on Accounting Standard No. 9 of the ICAI, the Committee suggested that revenue from sales or services can be recognised when it is not unreasonable to expect ultimate collection, irrespective of whether or not the cash has been received. In addition, the Committee stipulated that a letter of subrogation or a letter of acceptance from proper authorities may be taken as a good proof of reasonable certainty for recognition of revenue. This has undoubtedly helped the PEs in measuring income more realistically.

4.6 Valuation of Inventories

As regards valuation of inventories, the Committee recommended the adoption of Accounting Standard No. 2 of ICAI as the basis for relevant accounting policies. Of course, though AS 2 requires that the historical cost of inventories should be determined by using FIFO, Average Cost or LIFO formulae, the Committee recommended that "the historical cost of inventories should be determined by using FIFO or Weighted Average Cost Formulae". Thus, LIFO method of inventory valuation has been rejected in PE accounting, possibly, to value inventory at relatively current prices. But it is, again, true that it may have its adverse impact on cost of production or sales.

4.7 Accounting for Fixed Assets

The Committee here recommended that the PEs should adopt Accounting Standard No. 10 in full as the basis for their accounting policies relating to fixed assets. But since the PEs often incur capital expenditure on assets which do not belong to them, e.g., cost of roads, the Committee further recommended that the expenditure so incurred be treated in the books of account as a capital expenditure, with clear indication that the expenditure is not represented by any asset owned by the company. The PEs have also been asked to write off such expenditure over the appropriate period of its utility, but not exceeding normally five years.

48 Depreciation Accounting

Like others, in this case also the Committee recommended the adoption of the relevant accounting standard set by ICAI (i. e. AS 6). But at the same time, it suggested that the PEs should, in addition, consider various circulars issued by BPE from time to time. What have mainly been required by these circulars are that the PEs in general should follow straight-line method for determining depreciation. But since under Income Tax Act, depreciation is largely claimed on the basis of written down value, the circulars simultaneously have required that PEs should maintain detailed records of depreciation as per WDV method also.

4.9 Accounting for Research and Development

In this respect the Committee did not deviate much from the provision of Accounting Standard No. 8 of the ICAI. As has been required by both AS 8 and the Committee, the total research and development costs should be disclosed in the profit and loss account for the period and the deferred expenses, if any, should be separately disclosed in the balance sheet under the head 'Miscellaneous Expenditure'.

4.10 Accounting for Construction Contracts

According to Committee's recommendation, PEs are required to adopt Accounting Standard No. 7 as a basis for their accounting policies for construction contracts. But while in the text of AS 7 there is the provision for two methods for accounting for contracts, e.g., percentage of completion method and the completed contract method, the Committee recommended that the former only should be used in PE accounting. If a PE likes to adopt alternative method, it must get prior permission of the Standing Committee formed by BPE for the purpose.

4.11 Treatment of Expenditure During Construction Period

The ICAI has so far not issued any accounting standard with respect to this area. It has only issued some guidance notes in this respect. According to the recommendation of the Committee, the PEs are to adopt the aforesaid guidance notes as the basis for treatment of expenditure during construction period. But at the same time, they are also to consider the BPE circulars issued for the purpose. As is required by both of the above two, the construction period shall be said to be over when the plant is ready for commercial production and not on the date the plant actually commences commercial production. Taking it as basis, the construction period expenditures are to be treated either as capital or as revenue expenditures.

5. Conclusion

In view of the above, it may be said that the PEs in India now stand in a better position with respect to compliance with accounting standards issued by ICAI. In respect of the controversial issues like depreciation, valuation of inventories, revenue recognition etc, the PE accounting has thus got some quite definitive and authoritative solutions From the direction issued (in 1985) by the C & AG to the auditors of PEs relating to accounting policy, the PEs have got another definite course of action relating to their accounting and reporting.³¹ All these have undoubtedly enriched the PE accounting in India to a very significant extent. Even in international field, PE accounting is acceptable because the standards applicable to PEs as above are mostly prepared following the guidelines of International Accounting Standards Committee (IASC). Since the PEs constitute a major part of the corporate sector of India, the corporate accounting as a whole may also be said in this way to reach the international standard.

It is, however, true that the numbers of PEs in India are very insignificant in comparison with those of private sector enterprises. (Numbers of PEs and private enterprises now at work have been mentioned earlier). As such, one may, perhaps, argue rightly that development in PE accounting cannot be claimed to be the development of corporate accounting in full, so long as the new techniques of accounting adopted by PEs are not adopted equally by private enterprises. But since, both PEs and private enterprises are to collect 'land, labour and capital' from the same market and to sell their outputs to the same consumers, it is quite natural that there will be always a sense of healthy competition between the two. As a result, private enterprises cannot keep their eyes shut to all the developments that have taken place in PEs in the context of accounting and reporting. A study covering the annual reports of 112 companies of both public and private sector has revealed that the private enterprises, though in limited numbers, have already started to adopt the techniques of accounting that were originated mainly in PEs³². It appears from a list supplied by ICAI that in the annual competition for the best presented accounts, the private enterprises have also been able to secure significant position in many of the years. In view of all these, we may, perhaps, say in conclusion that PE accounting has evolved not only to enrich itself but also to uplift the standard of accounting and reporting of corporate accounting as a whole. Hence, it may also be said without hesitation that like legislation and professional institutes, PEs have also a considerable contribution to the development of corporate accounting in India.

REFERENCES

- 1. W. Friedman, Public Corporations, 1954 (ed.), p. 374.
- 2. Lilienthal and Marquis, 'The Conduct of Business by Federal Law', Harvard Law Review, 4th February, 1941.

65

- 3. N. Dis, Public Sector in India, Asia Publising House, 1961, p. 84.
- 4. N. Das, ibid, p 20.
- Park Chung Hee. Our Nation's Path, Hollym Corporation, Seoul, 1970, p. 218.
- 6 Lixi Narain, Principle and Practices of Public Enterprises Management, S. Chand & Co., New Delhi, 1988, p. 24.
- W. Thornhill, The National Industries—An Introduction, T. Nelson & Sons, London, 1986, p. 1.
- 8. V. V. Rumanadhan, Public Enterprises in Britain, Frank Crass & Oo., London, 1959, p. 39.
- 9 Government of India, An Introduction to Indian Government Accounts and Audit, 2nd ed., Manager of Publications, Delbi, p. 7.
- 10. UN, Resolution of the Economic Committee, adopted on 26th November, 1975.
- 11. A. K. Hanson, Public Enterprises and Economic Development, Routledge & Kegan Paul Ltd., London, 1965, p. 23,
- 12. Jawaharlal Nehru, Industrial Policy Resolution of 1956, Government of India, New Delhi, 1956, p. 47.
- B. Banerjee, 'Management of Public Enterprises-The Indian Experience' quoted from Proceedings of the PAN PACIFIC CONFERENCE-V, 1988, p. 266.
- 14. Laxi Narain, idid.
- R. K. Khurana, 'Companies at Work', Company News and Notes, Department of Company Affairs, Government of India, Delhi, January & July, 1987.
- P. K. Ghosh, Public Enterprises in India, Book World, Calcutta, 1982, p. 101.
- 17. B. Banerjee, ibid, p. 265.
- Commerce Year Book of Public Sector, 1980-81, Commerce Publication, Bombay, p. A-1.
- 19. Laxi Narain, ibid, pp. 1-2.
- 20. B. Banerjee, 'Development of Accounting in India-In Retrospect and Prospect', Research Bulletin, July, 1987, p. 19.
- 21. Many details about the activity of the CPU are contained in the annual publication of the Lok Sabha Secretariat : "Financial Committees : A Review".
- 22. Vide Rule 308 (2) of Procedures and Conduct of Businesses in Lok Sabha, Ministry of Parliamentary Affairs, Government of India.
- 23. V. S. P. Sishtla, 'Public Enterprises Accounting: Concepts, Techniques and Procedures', The Chartered Accountant, July, 1984.
- 24. Vide Section 619(3) of the Companies Act, 1956.

9
- 25. Vide Articles 149 and 151 of the Constitution of India, Government of India, New Delhi.
- 28. IOAI, Trends in Published Accounts, 2nd ed., 1985.
- 27. N. Dasgupta, Financial Reporting in India, S. Chand & Sons, New Delhi, p. 114.
- 28. V. S. P, Sishtla, ibid.
- 29. Report of Arjun Sengupta Committee submitted to the Government of India in 1986, para, 9.5.
- 80. For details see BPE, Report on Accounting Policies, given by the Committee to Evolve Accounting Policies for Central Public Enterprises, Ministry of Industry, Government of India.
- V. K. Vasal, 'Standardisation of Hinancial Accounting in India-A Disquisition', Indian Journal of Accounting, December, 1987, p. 20.

^{82.} ICAI, ibid.

Empirical Determinants of Systematic Equity Risk (Beta)

-Swapan Kanti Chaudhuri*

The required rate of return on a capital asset under the simple one-period capital asset pricing model equals the risk-free rate of return plus a risk premium. The total risk of a capital asset is usually decomposed into unsystematic risk and systematic risk. Unsystematic risk can be eliminated through diversification, but systematic risk cannot be so eliminated. This paper is designed to present some empirical evidence on the association between accounting variables and systematic risk. Among the risk-relevant accounting variables subjected to empirical tests, on the whole dividend payout, and leverage to some extent appear to offer promising alternatives for dealing with systematic risk.

According to simple one-period Capital Asset Pricing Model (CAPM), developed by sharpe (14), Linter (5) and Mossin (6), the required return on an asset equals the risk-free rate of interest plus a risk premium. The specific form of this risk premium is based on the assumption that rational risk-averse investors diversify their investments, hence require compensation for only bearing 'systematic' (or 'nondiversifiable') risk.¹ The systematic risk is measured by asset's 'beta' co-efficient defined as the covariance between the asset's returns and returns on the market portfolio, divided by the variance of returns on the market portfolio.

The empirical investigation of the determinants of systematic risk begins with the seminal work of Beaver, Kettler and Scholes (15) which examined the relationship of certain accounting ratios (payout, liquidity, earnings variability, etc.) to systematic risk (beta), and found a strong and significant association between them. Myers (11) provides an excellent survey and synthesis of other early works. For a review of more recent studies and for further evidence, reference could be

1. There are other restrictive assumptions underlying the CAPM.

* Senior Faculty Member, Management Development Institute, Gurgaon, Haryana. made to the studies by Thompson (?), Fabozi and Francis (3), and Hill and Stone (8).

However, there has been relatively little research into the theoretical relationship between accounting variables and systematic risk. Notable contributions are made by Hamada (9), Myers (11), Turnbull 12), Subrahmanyam and Thomadakis (7) and Bowman (10).

The purpose of this paper is to present some empirical evidence on the association between accounting variables, reflecting a firm's risk-relevant characteristics, and beta. Section I describes the data and methodology; Section II presents the hypothesised relationships between the accounting variables and the systematic risk or beta; Section III contains the empirical results and discussion; and Section IV provides conclusions.

I. Methodology

The accounting system generates information on several riskrelevant relationships that may be considered as determinants of systematic risk, beta The present study, however, employed a small set of variables mostly drawn from the work of Beaver, et al (15). Table—1 provides the definitions of these variables.²

The sample of the study consisted of equity shares actively traded on major stock exchanges. Following the definitions of Table -1, accounting variables were calculated for two 5 year periods-7/1976 to 6/1981 and 7/1981 to 6/1986. The basic accounting data were collected from a number of sources such as Bombay Stock Exchange Official Directories and Kothari's Economic and Industrial Guide of India. The sample for the first period comprised of 54 companies; and for the second 5-year period it comprised of 84 companies. The equity share betas for these companies were obtained from the author's research work on the CAPM. For want of space, the beta estimation procedure has not been discussed here.³

 The study did not consider two variables of considerable importance, namely 'variability of earning' and 'accounting beta'. These were studied by Beaver, et al. Since only handful of earnings data were available, it appeared that no meaningful estimates of these two variables could be obtained.

3. The interested reader may, however, refer to S. K. Chaudhuri (13).

In testing the empirical validity of the hypothesised relationship between beta and the accounting variables (as discussed in the next section), cross-sectional rank correlations were computed for each 5-year period. Following Beaver, *et al* (15), correlation co-efficients were also determined across portfolios. To form the portfolios, for a given correlation, the shares were first ranked according to the magnitude of the accounting variable involved in the correlations. Next, they were grouped into portfolios of 5 shares each. Tables 2 and 3 report all the correlation co-efficients.

II. Hypothesised Relationships

The following is a discussion of *a priori* relationships between the potentially risk-relevant accounting variables used in this study and the systematic risk or beta.

1. Dividend Payout—It is widely held that firms, in general, practice dividend stabilisation policies. Under such policy, firms with greater volatility in earnings are expected to pay out a 'ower percentage of earnings. In other words, payout ratio can be viewed as a surrogate for management's perception of the uncertainty associated with the firm's earnings. Thus, it may be hypothesised that the lower the dividend payout ratio, the greater is the risk; that is to say, payout and beta are negatively correlated.

2. Growth—Empirical studies have generally hypothesised and observed a positive correlation between risk and growth. It is often asserted that growth in assets or sales of a firm, either as a result of exploring new investment areas or due to expansion, reflects a substantial element of business uncertainty.⁴

3. Size—It is generally believed that the larger the firm, the wider is the spectrum of its activities. The implication of this is that the share prices and returns on equity of large firms are relatively more stable.⁵ Further, as the records of the large firms are more likely to be known to investors, they require relatively less time and effort to obtain information on them. As a result, the securities of

- See, for instance, D. R. Fewings (1) For a different line of arguments to rationalise the positive association between growth and beta, refer to Beaver et al (15).
- 5. See Turnbull (12)

such firms are relatively more liquid; and, hence, a lower risk premium is expected on these securities.⁶

Thus, both the arguments suggest that systematic risk of a fiirm may have negative correlation with its size.

4. Leverage—The extant theoretical and empirical evidence indicate that financial leverage and beta are positively related.⁷ It is well known that, ceteris paribus, the higher the volume of debt in the capital structure of a firm, the greater is the volatility of the earnings available to its equity holders. Besides, larger the debt in the firm's capital structure, the higher is the risk of default, and lower is the valuation of its equity. Thus, leverage ratio may be hypothesised to be directly correlated with firm's systematic risk.

5. Liquidity—It is generally argued that a relatively high degree of liquidity (or short-term solvency) of a firm not only enables it to pay its bills and maintain its credit in the market but also enables the firm to have a high degree of adaptability to changing circumstances and environments. Consequently, the earnings of the firm should be less erratic, and, hence, the firm is more solvent and/or less prone to risk. Thus, systematic risk of a firm is expected to be negatively related to liquidity.⁸

III. Results and Discussion

An overview of the signs of the rank correlation coefficients as reported in Tables 2 and 3, indicates that with respect to *individual shares* the signs were in conformity with a *priori* relationships between beta and accounting variables with one exception. For both the measures of growth, namely, growth in assets and growth in sales, the signs were mostly negative while the hypot? esised relationship between growth and systematic risk suggests a positive sign.

At the portfolio level the signs of the correlation coefficients were almost the same as noted above. The growth factor, measured in terms of assets, now had positive sign over both the periods.

The evidence thus supports the predicted direction of the association between the accounting based risk proxies and beta-

- 6. See Dhingra (4).
- 7. For instance, see Hamada (9), Bowman (10), Beaver, et al (15).
- 8. In their study, Beaver et al (15), however, did not expect high degree of association between liquidity and beta.

However, most of the correlation co-efficients were not significant even at 10 per cent level.

Among all the accounting variables considered here, dividend payout was the only one for which rank correlation was consistently significant over the two periods. Besides, the degree of association was stronger, at the portfolio level. However, in the absence of a strong theoretical justification for the linkage between payout and beta, the observed significance of payout should not be emphasised too far. Perhaps this ratio, as observed by Myers (11), is simply a better proxy for the firm's growth prospects. So, further research is required to determine what the dividend payout ratio is really proxying for, or whether it has an independent effect on beta.

With regard to the relationship of beta with measures of growth, both for individual shares and portfolios, correlation coefficients were not significant at 5 per cent level. Similar results were obtained in the relationship between size and systematic risk.

Financial leverage (average book-debt to networth ratio) performed some what erratically as a determinant of beta. For the period 7/1976 to 6/1981, leverage was positively related to beta at 1 percent level. But the association was not significant at 5 percent level for the next 5-year period. The evidence thus is not entirely fatal to the theoretical prediction, but it does introduce the seed of doubt as to the relationship between leverage and beta.

Regarding the relationship between beta and the measure of liquidity (average current ratio), rank order correlation was significant for the individual shares over the first 5-year period. In every other instance, correlation was not significant even at 10 percent level.

IV. Conclusion

On the whole, dividend payout, and leverage to some extent appeared to offer promising alternatives for dealing with systematic risk. Also, the distribution of signs of the correlation coefficients were, in general, consistent with the hypothesised relationship. However, all the findings are conditional on the choice of variables included in this study. Besides, the insignificant relationships between beta and the variables like growth, size and liquidity may be real or attributable to methodological errors. In retrospect, further progress in understanding the real determinants of beta would depend, as also noted by Myers (11), on the development of a theory which specifies the relevant accounting variables and how they should in principle be measured.

TABLE I

Definitions of Accounting Variables Examined in the Study

Variable	Definition ^a	
Dividend Payout	$\left(\sum_{t=1}^{T} \operatorname{cash dividend}_{t}\right) / \left(\sum_{t=1}^{T} \operatorname{distributable earnings}_{t}\right)$	
Growth (Asset)	in (total asset Γ / total_asset _O) / T	
Growth (Sales)	in (sales _T / sales _O) / T	
Size (Asset)	$\sum_{t=1}^{T} in (total asset_t) / T$	
Size (Sales)	$\sum_{t=1}^{T} in (sales_t) / T$	
Leverage	$\sum_{t=1}^{T} (\text{total book debt}_t / \text{net worth}_t) / T$	
Liquidity	$\sum_{t=1}^{T} (current asset_{t} / Current liability_{t}) / T$	

a. t refers to annual period; and O and T indicate the initial year and the length of the study period respectively.

TABLE II

Association Between Beta and Select Accounting Variables, 7/1976—6/1981

Variables	Rank Correlation Coefficient $({}_{k})^{a}$		
v allables	Individual shares ^b	5-Shares portfolio ^C	
Dividend Payout	3801*	7636•	
	(4037)	(7647)	
Growth (Assets)	0081	.04 55	
	(.0358)	(0361)	
Growth (Sales)	0511	- .0545	
	(1338)	(0436)	
Size (Assets)	0709	0182	
	(– .1099)	(5365)	
Size (Sales)	0779	0273	
	(1241)	(0162)	
Leverage	.4723*	.7636*	
-	(.5014)	(.8942)	
- Liqui d ity	2499**	3545	
	: (1083)	(3357)	

a. Figures within parentheses represent product-moment correlation coefficients; critical values of rank correlation co-efficients for one-sided test and for $n \leq 30$ have been given in J. D. Gibbons, Nonparametric Methods for Quantitative Analysis, 1976, Holt, Rinehart and Winston, 119. For n>30, one tail probability may be obtained from $z-r_{\rm b}\sqrt{n-1}$.

- b. Correlations are based on 54 shares.
- c. Correlations are based on 11 portfolios.
 - * Significant at 1 percent level.
 - ** Significant at 5 percent level.
 - *** Significant at 10 percent level.

TABLE III

Association Between Beta and Select Accounting Variables (7/1981-6/1986)

Variables	Rank Correlation Coefficient $(r_k)^a$		
V UTILUTES	Individual Shares ^b	5-shares portfolio ^C	
Dividend Payout	2751*	4240**	
	(– .2956)	(5686)	
Growth (Assets)	. 01 09	.0784	
	(.0016)	(.0563)	
Growth (Sales)	1493***	3137***	
	(0772)	(0711)	
Size (Assets)	1168	2549	
	(1446)	(4651)	
Size (Sales)	0202	1225	
	(0451)	(1570)	
Leverage	.1004	.3382***	
	(.1667)	(•4036)	
Liquidity	0870	.2990	
	(1347)	(.0564)	

a. See footnote in Table-2.

b. Correlations are based on 84 shares.

c, Correlations are based on 17 portfolios.

* Significant at 1 percent level.

** Significant at 5 percent level.

*** Significant at 10 percent level.

REFERENCES

- 1. D. R. Fewings, "impact of Corporate Growth on Risk of Common Stock", Journal of Finance, May 1975, 525-31.
- D. J. Thompson II, "Sources of Systematic Risk in Common Stock", Journal of Business, April 1976, 173-88.
- F. Fabozi and J. C. Francis, "Industry Effects and the Determinants of Beta", Quarterly Review of Economics and Business, Autumn 1979, 61-74.
- 4. H. L. Dhingra. 'The Impact of Accounting Variables on Stock Market Measure of Risk'', Accounting and Business Research 12, Summer 1982, 198-205.
- 5. J. Linter, "The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets", Review of Economics and Statistics, 47, February 1965, 13-17.
- J. Mossin, "Equilibrium in a Capital Asset Market", Econometrica, 34, October 1966, 768-33.
- 7. M. G. Subrahmanyam and S. B. Thomadakis, "Systematic Risk and the Theory of the Firm", Quarterly Journal of Economics, May 1980, 437-51.
- N. C. Hill and B. K. Stone, "Accounting Betas, Systematic Operating Risk, and Financial Leverage: A Risk Composition Approach to the Determinants of Systematic Risk", Journal of Financial and Quantilative Analysis, September 1980, 595-637.
- R. S Hamids, "Portfolio Analysis, Market Equilibrium and Corporation Finance", Journal of Finance, 24, March 1969, 13-31; "The Effect of the Firm's Capital Structure on the Systematic Risk of Common Stocks", Journal of Finance, 27, May 1972, 434-52.
- R. G. Bowman, "The Theoretical Relationship Between Systemic and Financial (Accounting) variables", Journal of Finance, 34, June 1979, 617-30.
- Stewart C. Myers, "The Relation Between Real and Financial Measures of Risk and Return", in I. Friend and J. L. Bicksler (ed.), Risk and Return in Finance, 1977, Ballinger Publishing Co., Cambridge, Missachusetts, 49-80.
- S. M. Turnbull, Market Value and Systematic Risk", Journal of Finance, 32, September 1977, 1125-43.
- S. K. Chaudhuri, "Risk-Return Analysis for Shares and Portfolios in a CAPM Framework—An Empirical Study", Research Bulletin (ICWA), January 1985, 64-72.
- 14. W. F. Sharpe, "Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk", Journal of Finance, 19, September 1964, 425-42.
- 15. W. Beaver, P. Kettler, and M. Scholes, "The Association Between Market and Accounting Determined Risk Measures", Accounting Review, October, 1970, 654-82.

The Practices and Policies of Depreciation in Bangladesh⁺

-Binoy Krishna Sarma*

This study is aimed at an analysis of how depreciation of fixed assets is treated in accounts by corporate enterprises operating in Bangladesh. It first examines the objectives of depreciation accounting and then explores the factors influencing the choice of depreciation policies and practices by some selected public sector industrial enterprises in the country.

The Aim and Scope of the Study

The study aims at knowing how depreciation is treated in accounting by the companies and corporations of Bangladesh. It consists of both the practices and polices of depreciation.

Many justifications have been offered for these accounting treatments and their consequences—some of them are ideological ard others utilitarian. But history is believed to tell that unless there is a possibility of the savings of some current costs, the process of recovery of past costs by way of charging depreciation does not actually prove to be worthwhile. It may be found that this savings of current cost is made in the form of tax allowance granted by law.

It cannot be denied that the relief on depreciation was grarted with or about the time the system of corporate taxation was first started by the leading countries of the world. Since then it must have been working as an incentive for adopting the practice of depreciation by the companies of at least those countries where charging depreciation was not a legal compulsion. To that extert the reality or inference of tax relief acting as an incentive to the practice of depreciation is undoubtedly a historical fact.

⁺ A summarised version of the dissertation which was awarded Ph. D. by the University of Calcutta. The work was supervised by Prof. G. D. Roy, Retired Professor, Department of Commerce, University of Calcutta.

^{*} Assistant Professor, Department of Accounting, University of Chittagong, Chittagong, Bangladesh,

If no depreciation is charged on capital assets, they may gradually stand to be overstated in the future balance sheets. It is an ideological or moral fault and may not be rectified if there is no legal compulsion or professional insistence for the same. The failure in maintaining capital is also another ideological fault the rectification of which may be avoided on the same ground. It is true that, in that case, capital would not be maintained but would be leading to reduced activities. Additional cost would be borne in getting external finances for restoring original activities. The ultimate effect of charging depreciation is the appearance of a fund.

The fund retained by det reciation actually deprives the owners of the immediate enjoyment of profits. It evidently means a "sacrifice" on their part which deserves to be compensated, as far as possible, by the tax relief or tax allowance granted on depreciation by law. That is how the said concession came to act as an incentive to charging depreciation particularly in absense of legal or professional compulsion for the same. It is true that creation of reserves or postponement of distribution of profit may also mean suffering to the shareholders. But, unlike provision for depreciation, they do not deserve any concession or tax relief.

The projected study of the practice and policy of depreciation in Bangladesh is made, with reference to the said selected issues regarding some important objectives of depreciation such as allocation of cost or value, maintenance of capital, and financing replacement and their accomplishment and effectiveness in the background of this all pervading standpoint of taxation.

Methodology and Coverage

The study is basically designed to be an empirical one. It is a blending of simple fact collection and case studies. It has been endeavoured to explore, through survey, much of available information on depreciation accounting since published literature on the same in Bangladesh is, indeed, scanty.

For the purpose of the study the following industries of the public sector of Bangladesh were selected: (1) Jute Textile, (2) Cotton Textile, (3) Paper, (4) Cement, (5) Fertilizer, (6) Engineering. (7) Steel, and (8) Chemicals.

The criterion used for determining the size of an enterprise was the gross block at the time of taking sample i. e, on 30th June, 1982. The enterprises having total assets more than 5 crores and less than 200 crores were taken as samples.

The study is based on the response of twenty industries. These actually belong to four separate public sector corporations viz. Bangladesh Jute Mills Corporation, Bangladesh Textile Mills Corporation, Bangladesh Chemical Industries Corporation and Bangladesh Steel and Engineering Corporation. Five units were taken from each Corporation. Primary data were collected from management executives engaged in implementing the policies framed by the controlling corporation and accounting executives engaged in implementation of accounting policies of selected enterprises. The study is based on questionnaire method supplemented by personal interviews. In additior, secondary data, to the extent available, have been used where necessary. For this, books, journals, annual financial reports and statements were consulted.

Findings

1. The benefit of tax allowance may be accepted as the main incentive for depreciating assets in absense of any legal compulsion for the same.

2. Reality demands that if changes in depreciation accounting are warranted for accounting, economic and social reasons, law should be changed to conform to accounting principles.

3 Depreciation is charged generally from two points of view, i.e., ideological or ethical, and utilitarian point of view.

4 Three broad objectives of depreciation viz., (i) "Allocation of cost or value", (ii) "Maintenance of capital", and (iii) "Financing for replacement" were scrutinised theoretically. The first two objectives were found more or less allied in the sense that maintenance of capital could be possible to the extent that revaluation under the first objective was achieved. The points that were considered in respect of the first objective were that depreciation based on historical cost of asset does not reflect the true decline in the value of assets consumed—particularly in periods of rising prices. Although historical costs are objective and verifiable, in periods of rising prices ascertainment of depreciation on the basis of the same gives rise to the following undesirable effects :

- (i) Understatement of the cost of service potential consumed during a given period,
- (ii) Overstatement of profit/understatement of loss,
- (iii) Under recovery of capital outlay or erosion of capital,
- (iv) Payment of higher taxes,
- (v) Accumulation of insufficient funds for replacement of service potential, and
- (vi) Misleading information to management and others.

Inadequacy of the historical cost allocation method could be eliminated or reduced substantially if depreciation provisions were computed on the basis of current cost (or value) of asset services. Under this interpretation, the word "depreciation" will better be recognized as the current cost of the asset services consumed. But unfortunately, the tax laws in most countries of the world do not allow any departure from historical cost basis of depreciation.

The long-standing debate is almost over at present. Computation of depreciation on the basis of current cost is now well recognized by accountants, professional bodies and institutes all over the world, at least as supplementary information. Historical cost still remains to be a basis as because it is objective and verifiable as well as it is convertible to any form of value one wishes to use.

The points that were considered in respect of the second objective were that even if depreciation provision is based on the value of assets, however defined, yet capital of a firm would not be fully maintained. Because, the final replacement costs of assets or asset services are not determinable in advance since the said cost rise year after year almost in tune with the rate of inflation which is also not ascertainable beforehand. With every rise in the current value of assets, accumulated depreciation provisions become increasingly inadequate. They fall short of what ultimately should be according to the current value of asset on the date of retirement. The longer the life of an asset and the higher the rate of inflation, the greater would be the extent of backlog depreciation. The problem becomes again more complicated in case of pre-mature retirement of asset and inadequacy of earnings to cover costs. Until and unless an extra amount equal to or more than the cumulative backlog is provided out of retained earnings, capital cannot be claimed to be fully maintained.

So far as the third objective is concerned, full replacement of asset out of the provisions for depreciation is not practically possible. Resources retained by way of depreciation are generally locked up in the working capital. They cannot be made free in times of need for financing replacement. Usually the resources retained by depreciation are mixed up with other sources such as reserves, profits, loans etc. It is difficult to isolate which one has been used for working capital and which one for replacement. Still there are some other constraints. Therefore, the third objective is also not fully effective nor it is supported by all.

There are, however, some aspects in respect of which there cannot possibly be any dispute. These are:

- (1) When depreciation is charged against revenue a fund is alienated, provided revenue is adequate.
- (2) the said fund has no specific use.

Accelerated Depreciation

Accelerated depreciation does provide an incentive to invest in fixed assets and it helps particularly a growing firm than a stationary or declining one. Initial depreciation serves the purpose of an interest free loan to the tax payer. Since it results in a postponement of tax liability, the amount of tax saved in the initial years ultimately result in a net addition to cash flow. This is true in case of a single asset. But in case of continuous additions to assets entitled to accelerated depreciation, the grand total of the unpaid balance of all loans might even continue to increase. In that case, it represents a permanent tax reduction. Moreover, accelerated depreciation tends to offset the evil effects of inflation. Benefit of accelerated depreciation would more than offset the effects of inflation when the inflation rate is low. On account of this overriding position occupied by taxation, tax laws as developed in Bangladesh were studied. This study has been done in comparison with the development of such tax laws in the U.K., the U.S. A and India so that the progress made in Bangladesh could be specified. The achievements for which Bangladesh alone would earn the credit may be summarised thus :

From the study of historical evolution, it has been apparent that tax depreciation laws of Bangladesh have become much liberal or generous at present than ever before. This happened especially because of simplification of depreciation rate structure, major enhancement of those rates in respect of various assets, as well as introduction of a number of allowances and incentive measures. Moreover, with the passage of time greater trend has been observed towards the accelerated form of depreciation allowance and liberalisation of provisions concerned. This was in order to provide additional motivation to investments in particular assets, as well as in certain less developed areas. Besides, such measures were also intended to offset or reduce, though indirectly, the evil effects of inflation.

Subsequently, the comparative study revealed the achievements for which Bangladesh would earn the credit may be summarised thus:

- (1) Wide variety of depreciation allowances are permitted by the tax laws in Bangladesh in comparison to the U. S. A., the U. K. and India. In fact six different types of allowances are granted.
- (2) In Bangladesh initial depreciation is allowed in respect of a wider range of assets (except furniture) than other selected countries. The rates are also higher in the country.
- (3) No special allowance, especially to such extent (15%) is allowed in other countries compared.
- (4) 100% first-year allowance is granted on certain plant and machinery which is not allowed in other countries other than the U. K.
- (5) A number of measures have been adopted to accelerate depreciation provisions so that the tax payers might be in a position to conserve higher profits and thus be able to offset or reduce the evil effects of rising prices.

Company Practice in Bangladesh Regarding Depreciation Provisions

- (1) So far as the field survey is concerned, the idea "depreciation of fixed assets measured in terms of cost" and the idea "depreciation is an amount that allocates the asset's historical cost over its useful life in a systematic and rational manner" obtained the first and second score respectively in respect of the concept of depreciation accepted and that should be.
- (2) It was observed that only straight-line method (12 units adopted it) and declining balance method (8 units adopted) were in use.

- (3) "Simplicity of method, clerical time and cost" was regarded by the respondents as the most significant factor influencing the choice of straight-line method while "conformity with income tax regulations" was recognized as the most influential factor in choosing the declining balance method. "Direction given by the corporations under which the firm operates" almost equally influenced the choice of both straight-line and declining balance method.
- Among the factors influencing the choice of rates of deprecia-(4) tion, "length of life of assets', "nature of assets" and "rates of depreciation prescribed by the corporation" were earmarked respectively as the most influential, more influential and influential factors. However, 85 per cent of the total enterprises surveyed were following exactly the tax-depreciation rates for buildings, 80 per cent of them were using the tax depreciation rates in respect of plant and machinery. 95 per cent, 90 per cent and 75 per cent of the enterprises were following tax-depreciation rates for vehicles, furniture and fixture and equipment respectively. Thus it is found that a great majority of the enterprises covered by the study are following the rates of depreciation which are precisely the same as allowed by the Income-Tax Rules The rates of depreciation prescribed by the BTMC are similar to a substantially high extent to the taxdepreciation rates. It follows that possibly BTMC was more directly influenced by the tax codes in establishing the depreciation rate schedule.
- (5) As regards the factors influencing the choice of depreciable lives of assets, it was found that, "Manufacturers' or suppliers specification was given the highest overall rank. However, "life specified by the corporation" has been regarded as the most influential factor in the estimation of useful life of machinery in case of industries under BJMC and BTMC.
- (6) "Engineers' estimation" and "life specified by the corporation" has secured respectively the first and second rank as the factors guiding the choice of useful life of buildings.
- (7) So far as the factors guiding the estimation of useful life of furniture and fittings were concerned, it was observed that "past experience", 'life specified by the corporation", and "life

specified by the tax authorities were given respectively first, second and third priority rank.

- (8) "Manufacturers or suppliers specification", "life specified by the corporation," "life specified by the tax authorities" were assigned respectively the first, second and third rank as the factors guiding the selection of depreciable lives of vehicles.
- (9) In Bangladesh the lives of assets are not specifically mentioned by any authority such as tax authority or corporation. It is observed that in establishing the rates of depreciation and the depreciable lives of assets, extensive influence was exerted by the tax laws of Bangladesh.
- (10) It was found that the lives of machines have been seriously underestimated. Out of the twenty enterprises surveyed, seven units have already shared the experience. It was ascertained that the working lives of those have been under estimated to the extent of about two years (minimum) to about eighteen years (maximum). Some of the machines have already lasted almost double of their originally estimated lives or even more than that. But none of the textile mills under BTMC had confronted the problems of underestimation of lives of factory machines. Of the twenty enterprises surveyed, none appears to have shared the experience of premature retirement of machinery.
- (11) Impact of underestimation of lives of machines on depreciation charges and profits have been examined to visualise the distorting effects. It was found that this ultimately led to over-allocation of annual depreciation charges by 3.87 per cent, 3.55 per cent, 4.12 per cent, 4.12 per cent and 5 per cent, in case of five machines studied, than those reasonably should have been allocated. Thus, costs have been overstated resulting in under statement of profits. A prudent policy would be to revise the working lives when it is understood that previous estimates are no more valid.
- (12) Results of the field survey related to the main aspect of the study under the caption "objectives of providing for depreciation" to be considered now. It is true that the groups of objectives under the broad headings of "Allocation of cost (or

value)" and "Maintenance of capital" have secured respectively the highest score and fourth score in the fiel I survey. However, the objectives under the groups-"Financing" and "Tax considerations" have obtained consecutively the second and third scores. But the objectives of cost allocation and capital maintenance are more or less idealistic or ethical in nature. Adherence to them is essential at personal initiative at any cost. Still to undertake to depreciate assets for fulfilment of these objectives particularly in absence of any effective compulsion from any corner seems to be owing to the moral or ideological urge than to anything else. Securing of the third score by the group of objectives relating to 'tax considerations' must be depending entirely on utility. There is no question of morality or ethics here. Thus, when the question of utility is raised, "tax allowince" or "cax relief" is provided by tax laws serves as the most significant deciding factor or incentive for charging of depreciation.

(13) A survey was also undertaken to examine the factors influencing or guiding the depreciation policies and practices in Bangladesh. It was found that, among the eight possible factors given,
(a) "past and traditional practices", (b) "instructions and advices given by the controlling corporation" and (c) "provisions of law under the Income-Tax Act" have been recognized respectively as the first, second and third significant influential factors in guiding the practices and policies of depreciation.

Depreciation and Company Finance

- (1) Whether depreciation should be regarded as a source of funds or not has been discussed at length. But unanimity of opinions as to the same was not established there. It was found on an opinion survey that unanimity of opinions regarding the issue as absent also in Bangladesh.
- (2) There cannot be any dispute as to the fact that the process of charging depreciation helps to set aside or alienate a fund (if revenue covers costs). The resources thus retained within the business are generally expected to play a significat role in company finances. It has been ascertained that on the whole

depreciation provided 14.24 per cent of net working capital of the selected industries during 1980-1983. It provided the highest portion of net working capital (i.e. 23.31%) in case of jute industries under BJMC. Role of depreciation in financing working capital is more significant where shortage of the same is acute.

- (3) It has been found that during the period 1980-1983, depreciation provisions formed 36.11 per cent of total internal sources as well as 5.93 per cent of total sources of finances of the selected enterprises.
- (4) On investigation it was found that the process of external investment of provisions for depreciation was, in fact, totally absent on the enterprises of Bangladesh surveyed.
- (5) Through opinion survey it was found that the executives of the selected enterprises think it better to retain depreciation resources within the business as working capital rather than investing them outside. In support, a great majority of the executives (90%) advanced the arguments: (a) enterprises usually suffer from acute shortage or inadequacy of working capital; depreciation resources are utilized as emergency relief facilities, (b) if depreciation resources were invested externally ultimately the business would have to depend on external finances to meet working capital needs. But the cost of borrowing is likely to be much higher than the expected return on investment of depreciation resources.
- (6) Cash or resources retained by means of charging depreciation are allowed to be mixed up with cash and resources generated from other sources. It is difficult to isolate them. But majority of the executives interviewed have expressed that generally they have been found to take the shape of current assets.
- (7) Cash retained by depreciation are converted to different possible forms of current assets. Since depreciation funds are mixed up with other resources of a business it is extremely difficult or perhaps impossible to relate with any specific use or function. Therefore, it cannot be denied that they are not used in financing modernisation and replacement, particularly when internal sources are used.

Depreciation Policy Under Changing Price Levels

- (1) None of the twenty enterprises studied make any adjustment in respect of depreciation for changes in the prices of assets. This may happen either due to lack of knowledge about the effects of inflation and the accounting techniques so far developed or because of certain problems.
- (2) Accordingly, it was detected through empirical examination that a great majority of the executives in Bangladesh have adequate understanding about the undesirable effects of inflation. It was detected that majority of the executives have expressed their opinion in support of the introduction of current value accounting.
- (3) As a result of an exploration, it has been detected that the following were the discouraging factors, which disuaded the enterprises from making any adjustment :
 - (a) Lack of instruction from Corporation;
 - (b) Tax law does not permit it;
 - (c) Non-availability of detailed cost and age analysis of assets;
 - (d) Lack of appropriate price indices;
 - (e) Lack of second-hand market, etc.
- (4) It has been found that supports, by the respondents, for adjustment of depreciation owing to price changes have been increased to 80 per cent (from 55 per cent stated earlier) when it has been taken for granted that corporations concerned and the tax authorities would permit such treatment.
- (5) Thus, if the corporations and tax authorities give positive instructions for price level adjustments, then a significant majority of enterprises will, no doubt, be motivated to initiate the same.
- (6) The executives of the industries surveyed preferred current replacement cost and historical cost restated by current price index. Majority of them preferred supplementary statements to the mainstream accounts as a method of disclosure, though support for footnotes is not at all negligible.

(7) It has been found that mojority of the executives interviewed admitted that there should be mandatory requirement for adjustments and disclosure. This will bring greater uniformity of adjustment. The Government and Tax Authorities might realise the need for appropriate price index and publish the same.

Thus the dominating position of tax laws of Bangladesh was again displayed in the above. It has been observed that the enterprises are willing to incorporate price level adjustments into their accounting system, provided the tax authorities and as well as the corporations allow the same.

(8) Bangladesh did not try revaluation of assets methods either under the CCA or CPP. On the contrary, it tried the accelerated depreciation methods, under which tax laws were revised so that rates of depreciation could be enhanced with revised lives for the purpose of conserving higher profits for expansion and development purposes, as well as for off-setting the evil effects of rising prices. Other devices of tax laws were also introduced for the same purposes.

In fine what can be concluded is that "The Practices and Policies of Depreciation in Bangladesh" have more or less been the foster child of the tax laws of Bangladesh. The country did not make depreciation straightway compulsory by any specific law like some countries of the world. On the contrary it relied, for the purpose, entirely on the development of the tax laws.

INTERNATIONAL CONFERENCE NEWS

Future Annual Meetings of American Accounting Association

- 1990 : Wednesday through Saturday August 8-11, 1990 Toronto, Canada
- 1991 : Sunday through Wednesday August 1 -14, 1991 Nashville, Tennessee
- 1992 : Sunday through Wednesday August 9-12, 1992 Washington, D. C.
- 1993 : Sunday through Wednesday August 8-11, 1993 San Francisco, California

For further details interested members may write to :

Paul L. Gerhardt Executive Director American Accounting Association 5717, Bessie Drive Sarasota, FL 34233 U. S. A.

ENDEC

INTERNATIONAL ENTREPRENEURSHIP CONFERENCE AND EXHIBITION March 21-24, 1990, Hyatt Regency, Singapore

Invitation to Submit Papers :

Entrepreneurs, government and public sector experts, professionals, management consultants, venture capitalists, bankers and academiicnas are invited to present papers at the ENDEC 1990 Conference. The papers should focus on the theme : "Entrepreneurship : A Spectrum of Possibilities". Topical areas are illustrated by, but not limited to, the following :

_ ___

ن <u>ل</u>

- J. What drives an Entrepreneur
- 2. Business Growth and Development
- 3. The Nature of Entrepreneurship
- 4. The Art and Science of Entrepreneurship
- 5. Case Studies of Successful Entrepreneurs
- 6. Entrepreneurship Education
- 7. Entrepreneurship and Systems Perspective
- 8. Development of Small and Medium Enterprises (SMEs)
- 9. Entrepreneurship Spirit, Knowledge, Skills and Practice
- 10. Intrapreneurs and Entrepreneurs
- 11. Financial and Legal Aspects of Entrepreneurship
- 12. Prospects and Challenges of Entrepreneurship
- 13. Other Related Topics

Paper Submission Guidelines :

Authors are requested to submit one copy of an abstract, not exceeding 250 words, on or before 30 September 1989 to:

Dr. John C. Oliga, ENDEC NTI-Peat Marwick Entrepreneurship Development Centre School of Accountancy & Commerce Nanyang Technological Institute Nanyang Avenue, Singapore 2263

Upon notification of acceptance, authors will be supplied with mats and guidelines for presentation. Authors are requested to submit final copies with original photographs, if any, for direct reproduction in the Conference Proceedings. Paper should be submitted in the following form :--

Dear Sir,

I/We intend to present a paper/s at the abovementioned Conference.

Please find enclosed a 250 word abstract/full text of my/our proposed paper/s.

I/We understand that the acceptance of my/our paper/s is at the absolute discretion of the organisers, and that the organisers reserve the right to change the dates, venue and/or other matters concerning the Conference as they see fit.

Paper Title			
Author's Name	······		
Designation			
Organisation			<u></u> .
Address	<u> </u>		
Tel	Fax	Telex	
Signature		Date	

Pan Pacific Conference VI

The Sixth Pan Pacific Conference was held at Hyatt Kingsgate in Sydney, Australia, on May 30 to June 1, 1989 It was hosted by Kuring-gai College.

The theme of the Conference was "A Business, Economic and Technological Excharge". Over 150 papers were presented in approximately 60 concurrent sessions in the following areas :

Issues in International Finance Culture and Organisational Behaviour Comparative Analysis of Accounting Systems Research'in international Business International Marketing Decision Making Methodology Research in International Finance Comparative Management Issues in International Economics Technology Transfer Technology and the Work Place Strategic Alliance and Joint Ventures ' Comparative Analysis of International trade Global Economy Knowledge Based Systems Issues in Management Education Behavioural and Cultural Dimension of International Finance Research in Service Industries for Strategic Management Economic Development Comparative Analysis of Education Systems Manufacturing Management for Management Strategic MNCs'

Research in the Public Sector Management Japanese Management Today Research in International Accounting Research in Organisational Behaviour Strategic Management Issues Issues in International Trade Research in International Marketing Human Resources Management Business Issues in the People's Republic of China Auditing in International Accounting International Capital Markets Comparative Analysis of Organisational Behaviour Research in International Economics International Finance and Banking Multinational Accounting System Cultural Aspects Interof national Finance International Entrepreneurship Global Franchising Re-Information Technology search in Production Manage-

ment

Professor Sang M. Lee, Chairman of the Pan Pacific Business Association, gave Programme Chair's message in the Inaugural Session on May 30, 1989. This was followed by Welcome Address by Hon'ble Mr Justice I. F. Sheppard, Chairman of the Australian Copyright Tribunal and Judge, Federal Court of Australia. The Keynote Speech was given by the Hon'ble Mr. Wal Murray, Deputy Premier of New South Wales on "The Role of the Department of State Development in the Asian Pacific Region". About 300 delegates, comprising academics, executives and government officials from the Pacific countries attended the 6th Conference.

Professor B. Banerjee, Dean of Commerce and Management, Calcutta University, presented his paper entitled "Regulation of Accounting—the Indian Scenario" in the Session entitled Research in International Accounting (II). Another paper, Mandatory Audit of Cost Accounts—An Indian Experiment, jointly authored by B. C. Ghosh, Chew Yong Wan (of Nanyang Technological Institute, Singapore) and B. Banerjee (Calcutta University), was presented by Professor Ghosh in the presence of the other authors. Professor Ghosh, a senior member of ICWAI, also chaired a Session on Research in the Service Industries.

THE INDIAN ACCOUNTING ASSOCIATION

The Indian Accounting Association is an organisation of persons willing to assist in the advancement of accounting research and knowledge. The registered office of the Association is at the Department of Management Studies, Banaras Hindu University, Varanasi-221005, India. Membership of the Association is open to academics and professionals who are willing to assist in achieving the objectives of the Association. Different categories of membership and respective 'res are as under :

Individual :		Institutional :	
Life	Rs. 250 US \$ 100) Permanent Rs. 1,000 US \$ 500	
Annual	Rs. 30 \$15	Annual Rs. 300 \$ 100	

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. For further information write to the Secretary of the Association.

INDIAN JOURNAL OF ACCOUNTING

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

Subscription rates are :

India		Abroad
Annual	Rs. 30	US \$ 15
Single copy	Rs. 20	\$ 10

Other particulars of the Journal are :

TECHNICAL

Periodicity	: Bi-annual	Overall-size : $24\frac{1}{2}$ cm. × 16 cm.
Language	: English	Printed area : $0 \text{ cm.} \times 11\frac{1}{2} \text{ cm.}$

Manuscripts (in duplicate) to be submitted for publication in The Indian Journal of Accounting should be sent to the Chief Editor, Indian Journal of Accounting. Faculty of Business Studies, University of Calcutta, Calcutta-700073. Reference books and research publications for review (two copies of each title) should also be sent to the Chief Editor.

STATEMENT ABOUT OWNERSHIP AND OTHER PARTICULARS ABOUT JOURNAL

Printer's Name	:	Dr. Mukund Lal
Nationality	:	Indian
Address	:	Faculty of Management Studies Banaras Hindu University Varanasi-221005
Place of Publication	:	Calcutta
Periodicity of Publication	:	Half yearly
Publisher's Name	:	Dr. Mukund Lal
Nationality	:	Indian
Address	:	Faculty of Management Studies Banaras Hindu University Varanasi-221005
Chief Editor's Name	:	Dr. Bhabatosh Banerjee
Nationality		Indian
Address		Faculty of Business Studies Calcutta University Calcutta-700073
Name and address of indivi-: duals who own the news- paper and partners or share- holders holding more than one per cent of the total capital		Indian Accounting Association Banaras Hindu University Varanasi-221005

I, Mukund Lal, hereby declare that the particulars given above are true to the best of my knowledge and belief.

> (S/d) Mukund Lal Signature of Publisher

Printed in India by Dr Mukund Lal at Ashoke Printing Works, 7|A, Balai Singha Lane, Calcutta-700009 and Published by him on behalf of the Indian Accounting Association, Varanasi-221005, India