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Editorial

Globalisation has exposed the limitations of the development process, particularly in the developing countries. A realisation has set in that infrastructure development is a necessary precondition for carrying on the process of development further. Development and management of infrastructure is thus a mighty challenge faced by the developing countries.

Electric power is one of the most important infrastructural inputs necessary for development. Dr. V.K. Vasae's papers on 'Accounting for Electric Power Industry: The Indian Scene', after a brief review of the contemporary business environment in the sector, describes the accounting system in the electric power industry. Drawing certain inferences it makes useful suggestions to strengthen the system. Dr. Kamlesh Pritwani in her paper on 'Transport Infrastructure Development: Problems and Prospects (A Case of Indian Railways)' has presented the factual position regarding financial health of Indian Railways, the problems faced and the prospects. Author concludes with the remarks that India can not depend solely upon foreign investment. It has to develop a strategy for strengthening the domestic financial bases and the Indian Railways should make a positive contribution in this process.

Dr. Shantu Kumar Bose in his paper on 'Financial Performance in Indian Ports' gives a case study of Calcutta Haldia port. Giving details of operational and non-operational performance of the port complex and making comparison with other port complexes in India author makes useful suggestions for raising port income, effecting cost economies and raising the level of operational efficiency.

Dr. R.K. Raul and Dr. Sujit Sikdar in their paper on 'Shareholders' Value: Its Measurement by Accounting Tools and Value Drivers: An Empirical Analysis', a buzz word in finance, giving significance of shareholders' value and the value drivers probes the Indian scene on the basis of empirical evidence on stock splitting, brand power and R&D expenditure. In conclusion the authors observed that R&D operation of companies was a growth sustaining force and to survive through the next millennium and increase shareholders' value greater attention should be given to it. Inside trading is an evil adversely affecting the investor confidence and growth of financial markets. Dr. G.L. Maladia and Sanjeev Gemawat in their paper on 'Insider Trading: An Empirical Analysis' have, after assessing the existing regulatory framework in India and abroad, given the results of the survey of market participants conducted by them. It concludes with the remark that proper inquiry and appropriate action in such cases was necessary for the development of healthy capital market. Shri Shiv Prasad's article on 'Market Transfers in Paperless Trading' describes the process of settlement of trades in capital markets where the securities are in dematerialised form.

Dr. N.M. Khandelwal has dealt with 'Accounting Education for New Millennium' in his article. His suggestions regarding ending the dichotomy of academics and professionals in Accounting, establishment of specialised Schools of Accounting and meaningful relationship among the universities and the institutions of professional accountants need serious consideration. Dr. B.S. Rajpurohit and Dr. Ashok K. Bohra have presented forcefully their views on status and problems of Accounting education in their paper on 'Accounting Education and Research: Please Call Spade a Spade'. Highlighting the basic problems and issues the authors have suggested serious deliberation by experts on these issues to strengthen education and promote research.

Dr. Pratapsinh Chauhan in his paper has discussed the problems of budgeting and budgetary control in Saurashtra University, Rajkot.

Udaipur

July 31, 2000

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Accounting for Electric Power Industry: The Indian Scene

Dr. V.K. Vasal

Introduction

Electric power is one of the most important infrastructural inputs necessary for rapid socio-economic development of a country. It is required for both, noncommercial and commercial uses. Since the beginning of the planning era, the electric power sector in India has grown tremendously. In monetary terms, this sector has absorbed about one-fifth of the total plan outlay. In physical terms too, the total installed capacity (in '000 MW) and gross power generation (in billion KWH) in this sector have, respectively, grown from 2.3 and 6.6 in 1950-51 to a level of 107.8 and 494.4 in 1998-99 (see Table-1 and Table-2). Notably, the pattern of electricity consumption has also shown a marked shift over this period (see Table-3). Specifically, whereas the per cent shares of agriculture and domestic sectors have shown an increase over time, the share of industry has decreased in electricity supplied by the utilities in India. The contemporary business environment in this sector is briefly reviewed in the following section.

Environment

Electricity is a concurrent subject at Entry 38 in List III of the Seventh Schedule of the Constitution of India, whereby decision-making and implementation for and in electric power sector involve both the Central and the State Governments. Till 1990, the power sector in independent India had evolved primarily as a public monopoly. The shape of the sector was guided and governed mainly by the Indian Electricity (IE) Act, 1910, and the Electricity (Supply) (ES) Act, 1948.

The institutional structure of the electric power industry in India on date is broadly as follows:

- The State Electricity Boards (SEBs) constituted by the State governments under the ES Act, and the Electricity Departments (EDs) are statutorily responsible for the efficient and economic development of the power sector in their respective States/Union Territories.
- Central generating companies-National Thermal Power Corporation (NTPC), National Hydro-Electric Power Corporation (NHPC), Nuclear Power Corporation (NPC) and North-Eastern Electric Power Corporation (NEEPCO)-generate and supply power in bulk to the SEBs.
- The Central transmission company, the Power Grid Corporation of India (PGCI), aims at developing a national grid. It has taken over the construction, operation and maintenance responsibilities of transmission lines of the central generating companies.

* Reader, Department of Financial Studies, University of Delhi, South Campus, New Delhi-110 021
State power corporations are principally involved in the construction and commissioning of power plants in the respective states. The plants are handed over to the SEBs on completion.

Five private generation and distribution companies are involved in generation and distribution of power in some important cities since independence.

Beginning in 1991, the Government has allowed private sector participation in the generation of electric power. For this purpose, the IE Act and the ES Act have been amended to usher in a new legal, administrative and financial environment. Since then, other reform efforts have included restructuring of the SEBs (1993), permitting private sector participation in transmission and distribution (1998), setting-up of Central Electricity Regulatory Commission (1998) and announcement of policy on mega projects (1998).

In the aforesaid backdrop, the primary objective of the present paper is to examine select aspects of financial accounting by the Electric Power Industry (termed "power accounting") in India. Specifically, the paper aims at comparing and highlighting some important aspects of the "power accounting" against the accounting for a typical corporate entity (carrying on business for profit), (termed "benchmarked accounting"), as mandated under the Companies Act, 1956.

**Power Accounting — A Status Report**

"Power accounting" has been discussed under the IE Act, 1910, and ES Act, 1948, (jointly termed as "Acts") for, at least, three different types of economic units. These are, Generating Company’, ‘Licensee’ and ‘Board’. Notably these statutory bodies are engaged in, one or a combination of, such activities of an electric power system as generation, transmission, distribution and supply of energy. The salient aspects of "power accounting", for each of the aforesaid three statutory bodies, are discussed below. A comparison with financial accounting, as mandated for a company carrying on business for profit under the Companies Act, 1956 ("benchmarked accounting") is incorporated at relevant places.

**Generating Companies**

According to Section 2 (4A) of the ES Act, a "Generating Company" means a company registered under the Companies Act, 1956 and which has among its objects the establishment, operation and maintenance of generating station (s). National Thermal Power Corporation (NTPC), National Hydroelectric Power Corporation (NHPC) and North-Eastern Electric Power Corporation (NEEPCO) are some of the generating companies currently operating in India. So far as "power accounting" for generating companies is concerned, it is largely on the lines of "benchmarked accounting", that is accounting for a typical for-profit company incorporated under the Companies Act, 1956. This inference is justified on three inter-related grounds. First and foremost, a ‘Generating Company’ is defined under the ES Act, as a company registered under the Companies Act, 1956. Secondly, the Companies Act, 1956, vide Section 211 provides that the requirements of the Act concerning "Form and contents of balance sheet and a profit and loss account" shall not be applicable to companies engaged in the generation or supply of electricity, if a form of balance sheet and profit and loss account has been specified in or under the Act governing such a class of company. Thirdly, Section 75 A of ES Act concerning annual reports and accounts of generating company provides that, in relation to reports, statement of accounts and other documents which are required to be kept or submitted by a company within
the meaning of Section 3 of the Companies Act, the provisions of Section 75A are in addition to and not in derogation (italics added) of the provisions contained in the Companies Act.

Thus, an examination of the "Acts" has revealed that there is no 'Form and contents of balance sheet and profit & loss account' specified under the said "Acts" for a 'Generating Company'. This implies that balance sheet and profit & loss account of such a company shall be drawn-up and presented as per Schedule VI of the Companies Act. A review of the recent annual reports of NTPC, NHPC and NEEPCO has lent ample support to this inference.

However, based on a review of the "Acts", the following specific points with regard to "power accounting" need to be highlighted, so far as accounting for generating companies is concerned:

1. Unlike a company covered under "benchmarked accounting", "financial year" means, in relation to a 'Generating Company', the year commencing on the 1st Day of April (Section 2 (13) of ES Act). In other words, accounting period for a generating company is the same as a fiscal year.

2. Section 75A of ES Act provides with regard to the annual reports and accounts of generating companies that:

   (i) A generating company shall, as soon as may be after the end of each year, prepare a report giving an account of its activities... (Section 75A (2)).

   (ii) For the purpose of preparing the statement of accounts... the depreciation to be provided every year shall be calculated at such rate as may be specified by the Central Government... Notably, the annual reports of select generating companies examined in this paper have duly highlighted this feature of "power accounting".

   Thus, except for the aforesaid minor points of differences, 'power accounting' for a generating company is similar to "benchmarked accounting".

   A licensee is one who has been granted a license by the state government, in consultation with the State Electricity Board (discussed below), to supply energy in any specified area, under Part II of the IE Act, and which is governed by the relevant sections of the "Acts". Section 2 (6) of the ES Act has clarified that the term 'licensee'... does not include the 'Board' or a 'Generating Company'.

   BSES, CESC, Tata Power Company and Surat Electricity Company are some of the examples of the licensees, albeit licensees organized as companies/corporate entities, which are currently in operation in India. As far as "power accounting" by licensees is concerned, the "Acts" have specifically provided the following:

1. Section 11 of the IE Act, (read along with 'Schedule' to the Act and Rule 26 of IE Rules, 1956) stipulates that every licensee shall prepare the accounts of his undertaking up to the thirty first day of March each year. This is unlike the flexibility inherent in the provisions of the "benchmarked accounting".

2. A licensee shall prepare and submit an annual statement of accounts to the State Government for this purpose, within a period of six months (or such extended period as the State Government may authorize) from the date stated at (1) above. This requirement is similar to
that stated for “benchmarked accounting” except for the fact that accounts are submitted by a typical company to the members/shareholders in the Annual General Meeting.

3. The accounts, in Indian currency and duly signed by the licensee, shall be made up as per forms set out in Annexure IV (Summary of Technical and Financial particulars for the year) and Annexure V (Model Form of Accounts) of IE Rules, 1956. For “benchmarked accounting”, Forms and contents of annual statement of accounts are detailed in Schedule VI of the Companies Act 1956.

4. Besides the annual statement of accounts at (3) above, the State Government may require submission of additional information from a licensee.

5. The licensee shall keep the accounts of the undertaking relating to generation, supply or distribution of energy, distinct from the accounts kept by him of any other undertaking or business.

6. The annual statement of accounts for the licensee (not being a local authority) shall be examined and audited by such person as the State Government may appoint or approve. Any report made by the auditor shall be appended to the annual statement of accounts of the licensee. This provision is quite similar to the one in “benchmarked accounting” wherein an auditors’ report is required to be attached to the balance sheet.

7. Schedule VI of the ES Act lays down certain financial principles to be followed by the licensees. These principles have a definite bearing on the measurement of a variety of items that are included in the annual statement of accounts.

Thus, “power accounting” for a licensee is quite dissimilar to “benchmarked accounting”. This is also evident from a review of the annual reports of select licensees.

**State Electricity Boards (SEBs)**

Power development in India commenced at the end of the nineteenth century with the commissioning of electricity supply in Darjeeling during 1897 (see Government of India, 2000). However, in pre-independence era, power supply was mainly in the private sector and that too restricted to the urban areas and select towns. It was only with the formation of the “State Electricity Boards” (SEBs), or simply the Board(s), as a component part of the planned economic development strategy in independent India, that a significant step was taken in bringing about systematic and co-ordinated growth of electric power industry in the country. The first seeds for creating SEBs were sown by the ES Act, 1948. The Act, in its statement of objects, advocated constitution of semi-autonomous bodies (italics added) like Electricity Boards for administering the “Grid Systems” (electric development in contiguous areas) on quasi-commercial (italics added) lines. (Incidentally, Section 80 (1) of the ES Act states that the Board shall be deemed to be a company (italics added) within the meaning of the Income-Tax Act and that the Board shall be liable to income-tax and super-tax accordingly on its income, profits and gains. Such boards were visualized as trading corporations (italics added) within the meaning of Entry 33 of the Federal Legislative List. Thus, a State Electricity Board (SEB) is constituted by the State Government under the ES Act and is governed by the relevant sections of that Act. The broad functions of a Board are to generae, transmit and distribute electricity in co-ordination with the generating company (ies), if any, operating in the State and with the Central Government or
any other Board or agency having control over a power system, transmission and distribution of electricity within the state, and exercise control in relation to generation, distribution and utilization of electricity within the State. Himachal Pradesh State Electricity Board, Maharashtra State Electricity Board, Tamil Nadu Electricity Board and West Bengal State Electricity Board are some of the examples of the SEBs.

With regard to "power accounting" for the SEBs, the "Acts" have provided as under:

1. "Financial year" means, in relation to the Board, a period of twelve calendar months commencing on the 1st day of April and ending on the 31st day of March every year. (Section 2 (13) of ES Act read along with Rules 2 (d) and 3 of ES Rules, 1985). This is unlike the flexibility enjoyed by companies in their choice of financial year under "benchmarking accounting".

2. Every Board shall compile and submit to the Central Electricity Authority (CEA) and to the concerned State Government annual accounts and auditors’ report thereof, within six months from the end of the financial year stated at (1) above. The auditors’ report shall be placed on "top" of the annual statement of accounts. This requirement is similar to that mandated for "benchmarking accounting", except that accounts are submitted to the members/shareholders in the Annual General Meeting and the auditors’ report is attached to the balance sheet.

3. The Form and contents of annual statements of accounts for SEBs are given at Rule 5 (1) of the ES Rules, 1985. Specifically, the rule requires that the annual statement of accounts shall comprise of as many as nine Statements (including a Statement of Accounting Policies and a Statement on Notes to Accounts), and 35 Schedules (Schedules 1 to 18 for the ‘Revenue Account' and Schedules 19 to 35 for 'Balance Sheet'). The aforesaid Statements and Schedules are required under the Rules to be arranged in the order as given thereunder. As against this, the Companies Act requires preparation of two financial statements, namely a balance sheet and a profit and loss account (as annexure to the balance sheet) for "Benchmarked Accounting". Schedules and Notes to Accounts are considered an integral part of the aforesaid two financial statements.

4. Rule 5 (2) of the ES Rules, 1985 requires that the annual accounts shall present a 'true and fair view' of the financial position of the Board at the end of the financial year and of the results of operations of the Board for the financial year. Incidentally, this statement of objectives is the same as the one stated for annual accounts under "benchmarking accounting".

5. The accounts of the Board shall be audited by the Comptroller and Auditor General (C&AG) of India or by a person duly authorized by him in this behalf. The certified accounts together with the audit report thereon shall be forwarded to the CEA and to the concerned State Government within six months of the close of financial year (Section 69 (2) and Section 69 (4) of the ES Act). This requirement for SEBs is similar to that stated for "benchmarking accounting", except that accounts of a company are audited by the statutory auditor(s) (additionally by the C&AG of India in case of a Government Company) and are submitted to the members/shareholders in the annual general meeting.

6. The State Government shall lay the accounts together with the annual report thereon forwarded to it at (5) above before the State Legislature (Section 69 (5) (a) of the ES Act).
7. The Board shall prepare and submit to the State Government a report, in such form and before such date as may be prescribed, giving an account of its activities during the previous financial year and the activities, if any, which are likely to be undertaken by the Board in the next financial year. The State Government shall lay such a report before the State Legislature (Section 75 (a) of the ES Act). This provision is quite similar to the requirement of preparing a ‘Directors’ Report under “benchmarked accounting”. Such a report is to be attached to the balance sheet under the Companies Act.

8. The ES Rules, 1985 require that (i) A Board shall adopt commercial accounting system of year-end accruals (Rule 9 (1)). (ii) The accounting policies shall be applied consistently from year to year (Rule 9 (2)). (iii) Any departure from the prescribed accounting policies or changes thereto shall be disclosed in the Board’s annual accounts for the year of departure or change, as also for the first two years immediately thereafter (Rule 10 (2)). Reasons for the said departure or change and its effect on the surplus for the year or on capital base shall also be disclosed in the year of departure or change, as also for the first two years immediately thereafter (Rule 10 (2)).

As against the above requirements for the SEBs, under the “benchmarked accounting” also, books of accounts are to be kept on accrual basis. Further, effective October 1998, any non-compliance with the accounting standards shall now be disclosed in the annual accounts along with reasons and financial effect, if any. Also, a change in accounting valuation for fixed assets (sums written-off on reduction of capital or revaluation of assets, or sums added up by writing up the assets on revaluation) is required to be disclosed for the first five years subsequent to the year of change.

Thus, it is obvious that “power accounting” for the SEBs is largely at variance with the “benchmarked accounting”.

Summary and Conclusions

The present paper has examined select aspects of financial accounting by the Electric Power Industry (termed “power accounting”) in India. This included salient features of “power accounting” for different types of economic units, namely the ‘Generating Company’, the ‘Licensee’ and the ‘State Electricity Board’. The mandated requirements for each of the three economic units have been compared against those prescribed for a typical corporate entity carrying on business for profit (termed “benchmarked accounting”), and appropriate inferences are drawn. The inferences drawn are expected to be useful in better appreciation of “power accounting” in India.
### Table 1
**Progress of Electricity Supply: Installed Plant Capacity in India**

(in '000 MW)

<table>
<thead>
<tr>
<th>Year</th>
<th>Hydro</th>
<th>Thermal (Steam + Gas Turbine + Diesel)</th>
<th>Nuclear</th>
<th>Total (2+3+4)</th>
<th>Non Utilities</th>
<th>Total (5+6)</th>
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<td>2</td>
<td>3</td>
<td>4</td>
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<td>6</td>
<td>7</td>
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<tr>
<td>1950-51*</td>
<td>0.6</td>
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<td>-</td>
<td>1.7</td>
<td>0.6</td>
<td>2.3</td>
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<tr>
<td>1960-61</td>
<td>1.9</td>
<td>2.7</td>
<td>-</td>
<td>4.6</td>
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<td>5.6</td>
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<tr>
<td>1970-71</td>
<td>6.4</td>
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<td>0.4</td>
<td>14.7</td>
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<td>16.3</td>
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<tr>
<td>1980-81</td>
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<td>17.6</td>
<td>0.9</td>
<td>30.2</td>
<td>3.1</td>
<td>33.3</td>
</tr>
<tr>
<td>1990-91</td>
<td>18.8</td>
<td>45.8</td>
<td>1.5</td>
<td>66.1</td>
<td>8.6</td>
<td>74.7</td>
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<tr>
<td>1998-99</td>
<td>22.4</td>
<td>68.7</td>
<td>2.2</td>
<td>93.3</td>
<td>14.5</td>
<td>107.8</td>
</tr>
</tbody>
</table>

Note: Figures may not add up to the total owing to rounding off.
*indicates on a calendar year basis.

### Table 2
**Progress of Electricity Supply: Power Generation (Gross) in India**

(in billion KWh)

<table>
<thead>
<tr>
<th>Year</th>
<th>Hydro</th>
<th>Thermal (Steam + Gas Turbine + Diesel)</th>
<th>Nuclear</th>
<th>Total (2+3+4)</th>
<th>Non Utilities</th>
<th>Total (5+6)</th>
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<td>4</td>
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<td>7</td>
</tr>
<tr>
<td>1950-51*</td>
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<td>-</td>
<td>5.1</td>
<td>1.5</td>
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<tr>
<td>1960-61</td>
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<td>-</td>
<td>16.9</td>
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<td>20.1</td>
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<tr>
<td>1970-71</td>
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<td>2.4</td>
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<td>1998-99</td>
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<td>353.7</td>
<td>12.0</td>
<td>448.4</td>
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<td>494.4</td>
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Note: Figures may not add up to the total owing to rounding off.
*indicates on a calendar year basis.
Table 3
Progress of Electricity Supply: Pattern of Electricity Consumption (Utilities only) in India

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic</th>
<th>Commercial</th>
<th>Industry</th>
<th>Traction</th>
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</tr>
<tr>
<td>1950-51</td>
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<td>6.0</td>
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<td>1960-61</td>
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<td>3.3</td>
<td>6.0</td>
<td>4.5</td>
</tr>
<tr>
<td>1970-71</td>
<td>8.8</td>
<td>5.9</td>
<td>67.6</td>
<td>3.2</td>
<td>10.2</td>
<td>4.3</td>
</tr>
<tr>
<td>1980-81</td>
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<td>58.4</td>
<td>2.7</td>
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</tr>
<tr>
<td>1990-91</td>
<td>16.8</td>
<td>5.9</td>
<td>44.2</td>
<td>2.2</td>
<td>26.4</td>
<td>4.5</td>
</tr>
<tr>
<td>1997-98</td>
<td>20.6</td>
<td>6.5</td>
<td>35.5</td>
<td>2.3</td>
<td>30.5</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Note: Figures may not add up to the total owing to rounding off.
*indicates on a calendar year basis.

References

- Annual Report, Select Companies.
Transport Infrastructure Development: Problems and Prospects
(A Case of Indian Railways)

Dr. Kamlesh Pritwani*

Prologue

Transport is a crucial infrastructure needed for development. This sector is capital intensive. The demands of this sector are likely to grow up in future with economic and population growth, rapid industrialization, urbanization and agricultural development together with increased freight and passenger transport and higher real income stimulate leisure-related travel. The expert group on commercialisation of infrastructure projects have projected an investment of Rs. 4,00,000 to 4,50,000 Crore in infrastructure till 2000-01. Such a huge investment requires innovative approach.

Indian Railways (IR) is a vital contributor to India’s economic development, accounting for about 1% of the GNP and serving more than 60% of the freight needs of core sector, such as power and steel. It is a global giant that operates profitably, effectively and with relatively little government support. It plays a crucial role in the country’s economic development. This dual role imposes on the railways an obligation to meet the transport requirement of all sections of the community in conformity with the socio-economic objectives, generate sufficient revenue to provide additional funds for renewal of the assets, in addition to future expansion and development of the existing infrastructure. As a part of government, Indian Railways is expected to provide basic transport infrastructure for healthy economic development and rapid industrialization.

Indian Railways carried over 12 million passengers per day and lifted more than 9 million tonne of freight traffic daily on a network spread over 62,809 route kms. covering, 6,896 stations during 1998-1999.

Financial Performance

Now-a-days, Indian Railways is facing acute problem of generating finances, due to increasing operational costs and declining government support, leading to market borrowings. Some facts are presented here:

- Indian Railways draws up its development plan within the framework of national five year plans. Plan outlays for IR and the transport sector as a whole are given in Table 1.
Table 1

Plan Outlays of Transport Sector in India Including Indian Railways

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Railways</td>
<td>3,200</td>
<td>1,523</td>
<td>6,555</td>
<td>16,549</td>
<td>27,202</td>
<td>45,413</td>
</tr>
<tr>
<td>Transport Sector</td>
<td>6,039</td>
<td>4,078</td>
<td>13,841</td>
<td>29,548</td>
<td>53,966</td>
<td>1,21,324</td>
</tr>
<tr>
<td>Total Plan Outlay</td>
<td>30,988</td>
<td>28,991</td>
<td>1,09,292</td>
<td>2,18,729</td>
<td>4,34,100</td>
<td>8,59,200</td>
</tr>
<tr>
<td>Transport Sector (as % of Total Plan)</td>
<td>19.5</td>
<td>14.1</td>
<td>12.7</td>
<td>13.5</td>
<td>12.4</td>
<td>14.1</td>
</tr>
<tr>
<td>Railways (as % of Total Plan)</td>
<td>10.3</td>
<td>5.3</td>
<td>6.0</td>
<td>7.6</td>
<td>6.3</td>
<td>5.3</td>
</tr>
</tbody>
</table>

* Excludes inter plan period 1966-69.

Source: *Year Book 1998-99*, Indian Railways, P. 141

- Indian Railways have been registering excess revenue over expenses in last few years. The excess was Rs. 535.22 crore in 1997-98, which was Rs. 399.08 crore in 1998-99.

- Railways have reduced its share in IX plan for total transport sector. However, the plan outlay for infrastructure (comprising energy, transport and communication) was budgeted to go up by 35% from Rs. 45,252 crore in 1997-98 to Rs. 61,146 crore in 1998-99. Budgetary support of the union government for the Railways has reduced from 75% in 1950 to 22% in 1998. Indian Railways has now resorted to market borrowings. As a result, the average cost of capital has risen considerably.

- Indian Railways are now spending 60% of its budget on manpower. This has pressed it hard to think of creating competitive advantage by leveraging human potential and creating intellectual capital. It has to built up a system that could capture this vastly underutilized asset. However, the IR has to go miles in respect of optimal use of its physical and financial assets. Harnessing the intellectual capital will certainly improve use of other resources also.

- Today market borrowings and internal resources of IR are seen as main segments, as they contribute 75% of the outlay. Indian Railways will have to manage long term investments by taking into account the financial structure and cost of capital using appropriate capital budgeting process. There is a persistent shortage of resources for investment. IR's transport output is being squeezed out of an increasingly inadequate asset base. However, the trend in the last decade points to a gradual reduction in the performance of railways. There are many reasons for this unhealthy trend-shortage of track capacity, especially on trunk routes and lack of sufficient resources for capacity augmentation and superiority of road transport in terms of flexibility and convenience due to door-to-door delivery.

- The IX plan approach paper of Indian Railways suggested setting up of a 'Railway Infrastructure Development Fund' (RIDF), for taking up projects in backward areas so as to
remove regional imbalances. The project would cover areas considered socio-economic necessity due to return on investment of less than 14%.

Table 2 depicts the overall growth of Indian Railways in comparison to other infrastructure sectors during last six years.

Table 2
Growth of Core and Infrastructure Sector Including Indian Railways

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Weight (IIP)</th>
<th>93-94</th>
<th>94-95</th>
<th>95-96</th>
<th>96-97</th>
<th>97-98*</th>
<th>98-99*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infrastructure Sector (IIP)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Electricity generation</td>
<td>10.2</td>
<td>7.5</td>
<td>8.1</td>
<td>8.4</td>
<td>3.8</td>
<td>6.6</td>
<td>6.6</td>
</tr>
<tr>
<td>(a) Hydel</td>
<td>0.7</td>
<td>17.5</td>
<td>-12.2</td>
<td>-5.5</td>
<td>8.6</td>
<td>13.8</td>
<td></td>
</tr>
<tr>
<td>(b) Thermal (Incl. Nuclear)</td>
<td>9.5</td>
<td>5.6</td>
<td>14.8</td>
<td>6.1</td>
<td>6.2</td>
<td>4.9</td>
<td></td>
</tr>
<tr>
<td>2 Coal Production</td>
<td>3.2</td>
<td>3.3</td>
<td>3.2</td>
<td>6.4</td>
<td>5.7</td>
<td>3.6</td>
<td>0.0</td>
</tr>
<tr>
<td>3 Saleble Steel</td>
<td>5.1</td>
<td>6.2</td>
<td>8.3</td>
<td>8.9</td>
<td>1.6</td>
<td>0.6</td>
<td>-2.6</td>
</tr>
<tr>
<td>4 Crude Oil</td>
<td>4.2</td>
<td>0.3</td>
<td>19.3</td>
<td>9.1</td>
<td>-6.5</td>
<td>3.0</td>
<td>3.6</td>
</tr>
<tr>
<td>5 Refinery throughput</td>
<td>2.0</td>
<td>1.5</td>
<td>4.1</td>
<td>3.9</td>
<td>7.2</td>
<td>3.5</td>
<td>3.2</td>
</tr>
<tr>
<td>6 Cement</td>
<td>2.0</td>
<td>5.7</td>
<td>9.9</td>
<td>6.6</td>
<td>8.6</td>
<td>12.8</td>
<td>3.7</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td>26.7</td>
<td>5.0</td>
<td>9.1</td>
<td>7.9</td>
<td>2.6</td>
<td>4.8</td>
<td>2.0</td>
</tr>
</tbody>
</table>

| **Other Infrastructure sectors**     |              |       |       |       |       |        |        |
| 1 Railways revenue earnings from goods traffic | 2.5 | 1.7 | 7.0 | 4.7 | 5.0 | -2.5 |
| 2 Cargo handled at major ports       | 7.6          | 10.0  | 9.1   | 5.6   | 10.6  | 0.0    |
| 3 Telecommunication: (New Telephone connections Provided) | 24.5 | 44.0 | 23.3 | 17.5 | 27.1 | 26.1 |

* Provisional : @ April-December (Per cent p.a)


It may be seen that the high rated goods traffic viz. coal, raw material for steel plants, pig iron and finished steel, iron ore and cement, have reduced in tonnage loaded. This has resulted in reduction of revenue generated during 1998-99 as compared to 1997-98. There is an overall reduction of tonnage loaded, which was 420.92 million tonnes during 1998-99 as compared to 429.38 million tonnes during 1997-98 i.e., 1.97% less tonnage was loaded. It resulted in less freight income of -2.5%.

**Problem Areas**

Role of the Railways particularly in infrastructure segment of the Indian economy is not getting due attention in the form of investment and support for balanced growth of the national
transport sector. IR is facing the challenge of adapting itself, if it is to retain its relevance to new India. The key issue is whether IR will be able to mirror the changes in environment and undergo a transformation. Some of the problems Railways is facing and serious constraints are briefly stated here.

1. During 1998-99 there was a substantial shortfall in the earnings because of non materialisation of traffic in core sector, due to general economic slowdown. Now the trade and industry have alternative means of moving commodities in bulk such as pipelines. More disturbing factor is the transport of coal, which contributes about 50% of the Railway freight traffic, is gradually reducing. This also resulted in reduction of the goods earning.

2. Over the recent decades, Railways the world over have suffered from shortage of financial resources, particularly infrastructure financing, priority being given to other sectors. This lack of investment has prevented the Railways from taking benefit of development in technology and other advancements. Its relative productivity has dropped compared to other modes of transport and the IR found it difficult to adopt their services with changing demands of the users. Consequently, the IR has been caught in a vicious circle of under investment and loss of traffic.

3. The shortage of capacity in Railways and very high traffic density on major routes point to the urgent need for augmentation of rolling stock capacity and expansion and increase throughput of existing track. It has been estimated that it is necessary to double the capacity of IR to meet the transport demand in new millennium. Obviously, this would require huge investment. The budgetary support to IR has been decreasing over the past five year plan periods (Table 1). A review of plan investment indicates that the outlay on Railways sector, as a percentage of total outlay, has reduced from 6.3 to 5.3% during IX plan as compared to VIII plan. Thus, the Railways sector has been forced to look into alternate sources of financing, such as market borrowings and private participation.

4. The recent trends towards excessive privatisation is acting as a drag on the performance of Railways. The policies regarding, tariff, financial investment and labour have all been politicised resulting in a shift and distortion of priorities and programmes. This neither added to the capacity nor helped in improving its productivity and efficiency. Political leaders at the helm of affairs are interested in short term localised gain only, instead of long term geographically balanced growth of investment, for obvious reasons. IR manifests itself in imprudent action in areas like new lines, gauge conversion, new divisions and zones, free passes and backward class politics. Consequently, the top management finds itself 'grounded' for it does not enjoy any freedom of action. Financially, the IR is moving dangerously with an effete organisational challenge.

5. IR is clamped down by a triangular mix of Minister, Government and Railways Board. Having functioned as a complete monopoly with no perceived competitive threats, IR has developed a serious malaise. It is presently suffering from marketing myopia. Its share in freight traffic has declined to 35% from 75%. Populist measures of uneconomic lines, not needed zone creation, old technology for signalling, excess manpower have been pulvering IR.

6. Quality of transport system includes safe travel. The serious accidents in recent past signify that something has gone wrong with the safety of rail transport sector. A recent high court
judgement has made IR liable for all consequential compensation for accidents at unmanned level crossings. If all these liabilities are to be discharged, an annual outgo of over Rs. 5 Crore would have to be made. Hence, this is high time for initiating not only an indepth introspection but also immediate corrective action.

7. The role, vision and the mission of the Railways are still not very clear and well defined. Sometimes, it acts as a social considerate organization. At other times its commercial purpose of freight and fare earning becomes important.

8. Social obligation of IR compels it to provide certain services below the cost of operation. Essential commodities of mass consumption like sugarcane, salt, edible oils etc. are carried over at low rates, even below cost. The net social service obligation in 1998-99 was assessed at Rs. 2695.18 Crore, excluding the cost of staff welfare (Rs. 977.84 crore) and of law and order (Rs. 602.65 crore). A review of financial results of uneconomic branch lines for 1998-99 depicts that on an orginal investment of Rs. 181.00 Crore, the operating loss added up to Rs. 328 Crore on as many as 114 branch lines.

9. Due to growing competition in transport sector, customers are provided with a number of alternatives, suiting to their needs. In IR, the situation has been reversed as compared to the past, when IR had monopolised transportation of goods as well as passengers. Now the scenario is totally changed, indicating the shift in the inclination of customers towards road services.

Prospects

Fortunately for the Railways the attitude of the government has changed over time and it has officially recognised the need for faster and qualitative development of infrastructure sector. As per recent notifications, all Railways related projects will enjoy infrastructure status conferring attendant tax benefits and holidays. Provision for systematic development planning of this sector will hasten and accelerate balanced economic growth in India. IR needs radical changes. It will have to turn towards reforms. It is one of the important instrumental areas of Indian Economy which needs to be given a boost.

1. IR needs to conduct a comprehensive analysis of usage and attitude, to segment customers and develop value creating proposition. It should take customer oriented approach. IR’s survival depends upon freight earnings and consequently should be given higher priority.

2. To embark as a high growth sector in a scenario of declining government funding, IR should move towards increasing accrual of internal resources and bridging the resource requirement through user funds and private sector participation.

3. The corporate financial system should be gradually adopted, instead of government accounting system, through a pilot approach starting with the manufacturing units and gradually rolling out the system in all fields.

4. The social objectives of IR should be clearly defined, considering the target population and the level of social support. Social cost should be rigorously checked. Services cannot be provided at very low rates to customers. Reform in this sector would mean reduction of subsidies. Hence, IR would have to make some hard decisions like increase of freight and fare charges and reduction of subsidies. A transparent mechanism should be planned to
ensure that uneconomic projects are explicitly identified and separately funded by the government. For this operating and tariff freedom is the prime need for IR.

5. In IR, it is essential to provide additional capacity and improve the quality of infrastructure. The self financing capacity of this sector can improve through appropriate pricing and user charges policies.

6. The 'mass rapid transport system' (MRTS) is considered necessary to remove the existing traffic congestion in metro cities. The road based transport system can carry a maximum of 10,000 passengers per hour per direction, while the light rail transit system can carry 30,000 passengers per hour per direction. The mass rapid transit system can carry upto 80,000 passengers per hour per direction. Metros and Urban Rail Systems are the cornerstones of public transport system in most major cities of the world. No other transport mode can even approach the capacity, speed and reliability provided by a metro network.

These reforms would strengthen IR to achieve higher growth and emerge as a sound transport infrastructure. Fruitfully, there is an important policy direction for financing capacity augmentation in IR. This involves identifying the opportunities for joint implementation in reference to global climatic changes for attracting investment from developed countries in Indian Railways. Besides, Indian Railways should invite entrepreneurs from public sector as well as private sector to participate in its various projects like BOLT, own your wagon, development of Railways land etc. In this manner, the Railways can be expected to execute projects, which will give needed rate of return and which would not have been ordinarily possible within of the existing resources available to it.

**Concluding Remarks**

Railways the world over adopted different modes for restructuring, ranging from partial participation to total privatisation, separation of infrastructure from operations, concessioning and so on. This is high time when the government should reassess the strategic role of IR in infrastructure development. The future will not be the same as the past. The future will see rising fuel prices, worsening pollution and rapidly increasing road transport cost. The Rakesh Mohan Committee on infrastructure has mentioned that there is no alternative to foreign funding for infrastructure, given the magnitude of funds required. But it is also true that India can not depend solely upon foreign investment and that it has to tap domestic resources to a great extent. In the light of what is given above, Indian Railways has to rethink upon the following points:

1. Selecting the corporate form of organization at least for owning the infrastructure, so that obsolete assets can be replaced and new technology can be inducted more easily and timely.

2. Suitable financing structure - an ideal mix of capital and debt financing

3. Detailed cash flow analysis for the proposed infrastructure development.

4. Clarifying its commercial and social obligations.

5. Rapid transport system especially in urban areas, infrastructure development for door-to-door delivery of goods, reliability of passenger reservations and punctuality are essential market oriented changes in the 21st century.
Indian Railways present an unparalleled opportunity for nation to provide an efficient transport infrastructure. The key challenge is for Indian Railways to embrace the opportunity and embark on a fast track growth trajectory. This vision of higher growth should be accepted as an emerging challenge by Indian Railways.

References:

7. Interview with Mr. K.C. Pant, Deputy Chairman of the Planning Commission *The Economic Times*, 29th June 1999, p.7
Financial Performance in Indian Ports: A Case Study

Dr. Santu Kumar Bose*

1. Introduction

Ports play an important economic role in maritime nations by facilitating foreign trade. They are thus catalysts for social and economic development in any maritime nation. In developing countries with extensive coast lines it is accepted that ports impart an impetus to economic progress by providing support-services to industry. In India, which is a developing maritime nation with its coast line extending to 5,660 Kms, the need for adequate port facilities for rapid socio-economic development can hardly be over-emphasised. The pace of our economic development is vitally linked with the growth of foreign trade which in turn depends upon port facilities.

There are, at present, 11 major ports, 23 intermediate ports and 144 minor ports in India, classified in terms of the Indian Ports Act, 1908. In case of major ports, the responsibility for development of port facilities devolves on the Union Government. Of the 11 major ports, 5 are located on the Eastern seaboard, namely Calcutta-Haldia, Paradip, Visakhapatnam, Madras and Tuticorin, while the other 6, namely Kandla, Nhava-Sheva, Bombay, Mormugao, New Mangalore and Cochin, lie on the west-coast. Ports are classified as export-based or import-based, depending on the net directional flow of trade which passes through them. At present, the export-based ports are only three in number, i.e. Paradip, New Mangalore, and Mormugao, while six others, i.e. Calcutta-Haldia, Madras, Tuticorin. Cochin, Nhava-Sheva and Kandla are import-based. In two exceptions, namely Bombay and Visakhapatnam, import and export flows almost balance each other.

The success of an enterprise to a great extent depends upon its financial performance. A careful and well planned financial management is needed for raising resources and utilising them effectively. The financial performance of a firm greatly influences its operational results and business efficiency. Therefore, it is highly significant to evaluate the financial performance of Indian Ports in relation to efficiency in mobilising the required resources and effectiveness in utilisation of those resources.

The Calcutta-Haldia Port complex, located on the east coast in the state of West Bengal is one of the four largest operational major ports in India. Numerous large and medium-sized industrial units, both in public and private sector, are situated in and around the port. The economic hinterland of the Calcutta-Haldia Port covers all States and Union Territories of the

* Reader, Department of Commerce, Mathabhanga College, Cooch Behar, West Bengal.
Eastern Region, as also the states of Bihar, Orissa, Madhya Pradesh and Uttar Pradesh. It also serves as a conduit for the sea based trade of neighbouring land-locked countries like Nepal and Bhutan. Calcutta-Haldia Port has however, been passing through precarious financial straits. The accumulated deficit in 1987-88 was of the order of Rs. 13.05 crore (comprising of a deficit of Rs. 22.51 crore for Calcutta Dock System (CDS), against a surplus of Rs. 9.46 crore for the Haldia Dock Complex (HDC). Although there has been a limited turn around since financial problems continue to be acute, particularly in Calcutta which has the added disadvantage of being a riverine port. These deficits in menacing proportions will lead to colossal waste of limited national resources. The present study is taken up in order to probe into the reasons behind the indifferent financial performance and to suggest measures for improving the financial position of the port complex.

2. Objective and Methodology

The present study is based on secondary data and other information provided by Port Trusts in their “Administration Reports and Annual Accounts”. The relevant data has been collected from the “Administration Reports and Annual Accounts” of the respective ports for 13 years, from 1980-81 to 1992-93. Financial management and statistical analysis techniques are used to analyse the performance of Calcutta-Haldia Port. Technical analysis of the constraints affecting the ports have been resorted to wherever necessary. A comparison is made of Calcutta-Haldia port with other major ports of India, to see if there are any peculiarities particular to the former. An assessment is made of the position of Calcutta-Haldia in relation to the total financial results for the major ports as a whole, in order to determine its economic importance. The analysed data and information have been shown in Tables I to VIII.

3. Financial Performance

Analysis of financial performance is made as a first step of data pertaining to the consolidated financial results of all major ports and the share of Calcutta-Haldia Port in these between 1975-76 to 1992-93, followed by analysis of operating and non-operating income, expenditure and surplus at selected major ports between 1980-81 to 1992-93.

Analytical interpretation of the figures is made by recourse to the standard financial ratios; Viz., i) operating ratio; ii) return on capital employed; iii) net surplus margin; iv) capital employed turnover; and v) fixed assets turnover.

In the analysis below, ratios for return on capital employed and turnovers on capital employed and fixed assets employed are indicated and analysed only for Calcutta-Haldia Port. Data on these ratios were not available for Bombay, Madras and Visakhapatnam ports. The other ratios i.e. operating ratio and net surplus margin, and analyses thereof pertain to all selected major ports. Breakup figures between Calcutta and Haldia are identified under CDS and HDC.

3.1 Financial Results

Table I presents financial results for all selected major ports for the period from 1975-76 to 1992-93, along with the computed share of CHP relative to consolidated financial figures for all major ports. Consolidated income for all major ports is seen to have risen more sharply than expenditure, the index increase for the former being 888 points over the 18 years period, relative
to index increase by 715 points in the latter. It is seen also that gross surplus of all major ports has increased 21 fold over the eighteen years, from Rs. 24.52 crore in 1975-76 to Rs. 510.85 crore in 1992-93. Taking 1980-81 as the base year, consolidated port surplus over the reduced period of thirteen years also shows a large increase by 1056 index points. Steady growth and acceleration in port revenue ahead of the rate at which port expenditure has grown, reflecting good port management, is the primary reason behind this. It is a good indicator of the progress of port sector in India.

Shifting focus now to CHP, it is seen that net surplus balance at the port also increased by Rs. 43.02 crore or 2592 index points between 1975-76 and 1992-93, which is greater than the recorded increase of net surplus balance at all major ports. Although such large growth in net surplus balance may appear quite commendable, comparative growth at CHP relative to other major ports in percentage terms appears less satisfactory. The reason being that the port income for CHP has increased more slowly than at all major ports, relative to port expenditure. Index figures indicate increase of 502 points in port income at CHP, against a comparable figure of 888 points for all major ports.

Percentage share of surplus at CHP relative to the consolidated surplus of all major ports, which stood at 6.77 per cent in 1975-76 rose to 8.75 per cent in 1992-93. In 1992-93, the share of income at CHP relative to that of all major ports was 18.9 per cent, against 23.0 per cent share of consolidated port expenditure. It may also be noted that percentage share of income at CHP has declined continuously relative to income of all major ports, from 30.98 per cent in 1975-76 to only 18.9 per cent in 1992-93. Since out of the total income of CHP, the maximum contribution originates from Haldia Port, this would place CDS in an even worse position.

Assessment of operational performance and profitability may now commence with a brief review of the overall performance at selected major ports. To fully understand the financial situation of major ports, it proves helpful to examine date on operating income, port expenditure against this and the resultant operating surplus or deficit, as well as non-operating income, port expenditure against this and non-operating surplus or deficit.

3.2 Operational Performance

Operating income and expenditure and resulting operating surplus and deficit at the four selected major ports are presented in Table II. The general pattern of port operations as seen in the table show operating income exceeding operating expenditure at all major ports over the study period. Growth in operating income was also faster than that of operating expenditure. As a result, all ports generated growing surplus balance. In 1980-81, CHP stood third after Bombay and Madras ports in terms of operating surplus, this relative position being retained in 1992-93 also. However, although Calcutta-Haldia Port increased operating surplus from Rs. 13.49 crore to Rs. 70.04 crore over the period of study, the magnitude generally remained behind operating surplus at Bombay and Madras ports.

The operating surplus was however, subject to frequent fluctuations at all major ports, except for at Madras, where such fluctuations existed only in the initial years. The reasons behind the fluctuations were a steady increase in operating expenditure on the one hand and alternating decrease or minimal increase in operating income on the other.
Bose

Bombay Port is observed to have been most consistent in recording large operating surplus. Operating income at this port increased by 309 index points from Rs. 89.14 crore in 1980-81 to Rs. 364-51 crore in 1992-93, against a 279 point index increase in operating cost from Rs. 57.88 crore to Rs. 219.16 crore over the identical period. As a result, operating surplus rose nearly five-fold from Rs. 31.26 crore in 1980-81 to Rs. 145-35 crore in 1992-93. For comparison, index increase in CHP's operating income was 218 points, against 185 index point increase in operating cost over an identical period.

Observing the growth of operating variables in all selected major ports over the study-period, it is thus found that operating income has tended to rise faster generally than operating cost, leading to the rising surplus seen in the table. However, in index terms, although the strongest growth in operating income has been at Madras (378 points), followed by Visakhapatnam (349 points) and Bombay (309 points), Madras, Bombay and Visakhapatnam, in that order, have also recorded the greatest increase in operating cost at 285 points, 279 points and 264 points, respectively. By comparison, index increase in operating costs at CHP was much lower at 185 points. Increase in operating income at all selected major ports accelerated considerably after 1987-88, while operating cost increases were more concentrated towards the last years of study.

The net result of the pattern just commented upon was that CHP showed the most consistent trend of increasing surplus, with surplus at other major ports tending to fluctuate more. In absolute terms, Madras and Visakhapatnam Ports also showed steady growth of operating income from Rs. 39.54 crore to Rs. 189.15 crore and from Rs. 36.66 crore to Rs. 164.55 crore, respectively, over the period of study. As a result, operating surplus increased from Rs. 13.53 crore to Rs. 89.08 crore at Madras Port, and from Rs. 7.50 crore to Rs. 58.44 crore at Visakhapatnam Port over the study-period.

3.3 Non-operational Performance

Non-operating income and expenditure and the resultant surplus/deficit for the selected major ports over the study-period are shown in Table III. Non-operating expenditure generally exceeded non-operating income at all major ports except for Bombay, where non-operating deficit was found only in the concluding years of this study. By contrast, Calcutta, Madras and Visakhapatnam ports showed deficit balance for the non-operating side throughout almost the entire period of study. Thus only the performance of Bombay Port might be considered satisfactory because of the surplus it achieved until 1989-90. Maximum non-operating surplus of Rs. 32.87 crore was earned by this port in 1986-87.

In relative terms, the sharpest increase in non-operating income occurred at Madras, followed by Visakhapatnam and then CHP. Bombay showed a relatively smaller index increase of 300 points, compared to CHP's 470 points. The trend at CHP also presents the most consistent growth in non-operating costs. Overall increase in non-operating expenditure was sharpest at Bombay (491 points), followed by CHP (253 points), Madras (183 points) and Visakhapatnam (146 points). In consequence, the pattern of non-operating surplus, which was negative in most years except at Bombay, indicated that the major ports were generally in deficit on the non-operating head. CHP had a far more adverse deficit than the three other major ports included in the study.
Madras and Visakhapatnam ports showed deficit balance in non-operating revenue, except for the few years towards the end of study. Madras Port started to show a non-operating surplus only from 1989-90 onwards. In 1992-93, the surplus for Madras Port was Rs. 30.91 crore, against the non-operating deficit of Rs. 7.43 crore occurring at Visakhapatnam. Visakhapatnam Port generally recorded non-operating deficit throughout the study-period, except for the surplus balances of Rs. 3.42 crore and Rs. 1.59 crore respectively, recorded in 1988-89 and 1991-92.

Calcutta-Haldia Port, was not satisfactorily placed in terms of non-operating activity, showing non-operating deficit without exception throughout the study-period. This deficit, moreover, rose from Rs. 10.22 crore in 1980-81 to Rs. 25.36 crore in 1992-93. Such large deficit was attributable to huge interest payment on Government loans, and payment of retirement benefits, especially to employees opting for voluntary retirement.

### 3.4 Operating Ratios

Computed operating ratios at the selected major ports between 1980-81 to 1992-93 are presented in Table IV. The ratios declined at all major ports, except at Visakhapatnam, over the period under study, decreasing from 86.0 per cent to 77.2 per cent at CHP, from 64.9 per cent to 60.1 per cent at Bombay, and from 65.8 per cent to 52.9 per cent at Madras between 1980-81 and 1992-93. Operating ratio at Calcutta and Bombay were highest at 92.7 per cent and 75.4 per cent, respectively, for 1987-88, compared to other years of study. In 1988-89 however, the ratios fell to respective levels of 73.8 per cent and 66.9 per cent. The decline followed revision of port charges, which also affected the operating ratios of Madras and Visakhapatnam ports, which declined from 59.0 percent to 54.4 per cent at Madras and from 76.9 per cent to 67.9 per cent at Visakhapatnam.

### 3.5 Return on Capital Employed

Huge sums have been spent year after year, particularly since the advent of planning, for the development of major ports in India. However, besides serving as gateways to increasing foreign trade, ports are also expected to earn adequate return on capital, so as to finance at least a part of their development, replacement and modernisation needs from internal sources, thus relieving Government of a part of the responsibility of providing funds for port development. Hence, it would be of great interest to study the profitability of ports in relation to investment on them.

Computed ratios for return on capital employed at CHP between 1980-81 to 1990-91 are presented in Table V. Uptil 1987-88 the return on capital employed at CHP was very low, standing for example, at (-) 1.82 per cent of capital employed in 1987-88. This then started to increase, reaching levels of 5.13 per cent (1988-89) and 5.65 per cent (1989-90). A marginal decline to 5.18 per cent then took place in 1990-91. Increase in the return on capital employed depends on net surplus balance earned at a port. Low level of the ratio is attributable on the one hand, to continuous growth in capital employed and on the other, to substantial decline in net surplus.

The Major Ports Commission (1970) had recommended a minimum rate of return of 12 per cent on capital employed, at a time when the rate of interest on Government loans was 6 per cent. Subsequently, this interest rate had risen gradually to 9 per cent, as a result of which major ports would have been enjoined to earn a 15 per cent return on capital employed over the period of study. For Calcutta-Haldia Port, not only has the rate of return realised been much less
than the recommendation, but also the gap between recommended and realised rates of return has been very wide. Port rates have undergone periodic revision to raise the return on capital employed to level prescribed by the Major Ports Commission. Still, despite such revision, the rate of return on capital employed realised by CHP fell way below the recommended level. Non-realisation of traffic in the expected volume and delays in revision of port tariffs are to some extent, contributory to this situation. Port traffic capacity utilisation at CHP in 1992-93, for instance, varied between 87% (CDS) and 78% (HDC). Against these, traffic capacity utilisation at Bombay was 108%, 115% at Madras and 101% at Visakhapatnam for the same year.

3.6 Net Surplus Margin

The net surplus margin reflects the capacity of a port to withstand unfavourable financial condition. A port having high net surplus margin would be better able to cope with rising operational cost or declining traffic without jeopardising financial performance, than a port with low net surplus margin. Similarly, a port with a high net surplus margin would capitalise internal profit more effectively in favourable conditions like falling operating cost or increasing volume of traffic.

Net surplus margins at selected major ports over the study period are presented in Table IV. The net surplus margin at CHP was very low over the initial years of study, but started to reflect an improved position from 1988-89, with ratios of 17.41 per cent and 19.59 per cent in 1988-89 and 1989-90. From 1990-91 onwards however, the ratios declined once more to 18.27 per cent, 14.82 per cent and 13.32 per cent in 1990-91, 1991-92 and 1992-93 respectively.

Bombay Port generally displayed much better placement until 1986-87. But the net surplus margins tended to decline thereafter, reaching a low of 16.79 per cent in 1991-92, compared to the initial 32.49 per cent in 1980-81. Highest net surplus margin observed at Bombay was 42.89 per cent in the year 1982-83.

Madras Port stood in reverse to Bombay Port, presenting low net surplus margin in the initial years, followed by steady increase. The net surplus margin rose to 47.11 per cent in 1992-93, against only 6.58 per cent in 1981-82. Compared to other selected major ports, the placement of Madras Port was therefore, quite satisfactory from this standpoint. Visakhapatnam Port also showed better placement, beginning from 1988-89, when net surplus margin was 27.97 per cent. By 1992-93 this had risen to 26.40 per cent, compared to the deficit ratio of -7.50 per cent in 1980-81. The highest net surplus margin recorded at the port was 30.47 per cent in 1989-90.

An analysis of net surplus margin reveals that the placement of CHP was worst amongst the major ports under study. This highlights the urgent need for the Port to adopt measures that would increase operating income and decrease operating costs in order to improve financial performance.

3.7 Turnover on Capital Employed

Table V shows turnover on capital employed at CHP between 1980-81 to 1992-93. The turnover ratios increased from 0.221 to 0.283 over the period, with the highest level being 0.295 in 1988-89, a jump from 0.234 in 1987-88. This was attributable to a large increase in total port income for CHP. Conversely, in certain other years the turnover ratio had fallen because of substantial growth in capital employed at the port, against a slowed increase in total port income.
3.8 Turnover on Fixed Assets

Turnover on fixed assets ratios reflect the efficiency of a port in utilising investment in fixed assets, such as land, buildings, plant and machinery, cargo handling equipment, berths etc. Ports acquire such fixed assets in order to extend their services to both cargo and shipping and in turn, receive revenue as operating income against various port services delivered. Hence, the efficiency of fixed assets should be gauged in relation to operating income, which is accomplished by means of the turnover ratio. The turnover ratio on fixed assets is computed by dividing the total port income by the port’s total investment on fixed assets.

The turnover of fixed assets at CHP over the study-period forms the subject of Table VI. The turnover on fixed assets at CHP stood at 0.272 in 1980-81 and showed increasing trend throughout the period of study, reaching the level of 0.462 in 1990-91. The maximum value observed for the ratio was 0.467 in 1988-89. Improvement in the fixed asset turnover ratio stems from the rise in operating income, which in turn depended on tariff revision and additional port traffic. For instance, in 1988-89 the turnover ratio increased to 0.467 from 0.359 in 1987-88, because of the rise in operating income from Rs. 154.20 crore to Rs. 206.49 crore over the two years.

4. Conclusions

From the above description the major findings on financial performance of Indian ports in general and of CHP and HDC in particular can be shown as under:

i. Gross surplus of all major ports has risen considerably over the last eighteen years. This is a reflection of improvement in port management in India. However, at CHP, this increase in net port surplus has largely been drawn from HDC to the detriment of CDS. CHP has been the most consistent among major ports in generating operating surplus, but runs large non-operating deficit because of heavy debt charges on loan-capital and towards meeting employee-benefits.

ii. Operating ratios declined at most major ports, but the operating ratios for CHP have generally been higher than at other ports. The decline followed revision of port charges. Timely enhancement of tariff, accompanied by diversification of cargo in favour of general cargo to raise port income and cost economies have helped major ports to improve their operating ratio.

iii. Return on capital employed at CHP was very low, till recently. Since the return on capital employed depends on net surplus earned at a port, such low return is attributable to continuous growth in capital employed, and/or to substantial decline in net surplus. The gap between recommended and realised rate of return has been very wide, because of non realisation of expected traffic volume and much lower traffic capacity utilisation than at other ports.

iv. A port with a high net surplus margin would capitalise internal profits more effectively in favourable conditions like falling operating cost or increasing volume of traffic. The net surplus margin at CHP has been much lower than at other ports and despite mid-period improvement, has begun to fall again. There is thus an urgent need for measures to increase operating income and decrease operating costs in order to improve financial performance.

v. Turnover on capital employed at CHP has grown slowly, because of slow increase in total port income. The efficiency of fixed asset creation at a port should be assessed in relation to the resultant operating income. Turnover of fixed assets at CHP shows increasing trend, corresponding to growth in operating income.
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Note: Italic Figures indicate percentages
Source: i) Compiled and Calculated from Administration Reports and Annual Accounts of Calcutta-Haldia Port for the above years.
ii) Major Ports of India: Statistical Profile of different years.
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Note: Italic figures indicate indices
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Note: Italic figures indicate indices
Source: Compiled and Calculated from Administration Reports and Annual Accounts of Respective Ports for the above years.
### Table IV

Operating Ratios and Net Surplus Margins at Selected Major Ports In India (1980-81 to 1992-93)

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<td>75.4</td>
<td>59.0</td>
<td>76.9</td>
<td>-7.79</td>
<td>29.35</td>
<td>32.28</td>
<td>8.47</td>
</tr>
<tr>
<td>1988-89</td>
<td>73.8</td>
<td>66.9</td>
<td>54.4</td>
<td>67.9</td>
<td>17.41</td>
<td>35.31</td>
<td>38.86</td>
<td>27.97</td>
</tr>
<tr>
<td>1989-90</td>
<td>73.9</td>
<td>72.2</td>
<td>55.5</td>
<td>57.0</td>
<td>19.59</td>
<td>26.00</td>
<td>40.12</td>
<td>30.47</td>
</tr>
<tr>
<td>1990-91</td>
<td>73.5</td>
<td>72.8</td>
<td>54.9</td>
<td>68.1</td>
<td>18.27</td>
<td>23.04</td>
<td>43.07</td>
<td>24.42</td>
</tr>
<tr>
<td>1991-92</td>
<td>78.7</td>
<td>74.4</td>
<td>56.0</td>
<td>72.6</td>
<td>14.82</td>
<td>16.79</td>
<td>44.10</td>
<td>24.51</td>
</tr>
<tr>
<td>1992-93</td>
<td>77.2</td>
<td>60.1</td>
<td>52.9</td>
<td>64.5</td>
<td>13.32</td>
<td>NA</td>
<td>47.11</td>
<td>26.40</td>
</tr>
</tbody>
</table>

**Source:** Compiled and Calculated from Administration Reports and Annual Accounts of respective ports for the above years.

### Table V

'Return on Capital Employed' in Calcutta-Haldia Port (1980-81 to 1992-93)

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Surplus</th>
<th>Capital Employed</th>
<th>Total Income</th>
<th>Ratio of Net Surplus to Capital Employed(%)</th>
<th>Ratio of Total Income to Capital Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Rs. crore)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1980-81</td>
<td>3.27</td>
<td>460</td>
<td>101.65</td>
<td>0.71</td>
<td>0.211</td>
</tr>
<tr>
<td>1981-82</td>
<td>6.17</td>
<td>477</td>
<td>114.48</td>
<td>1.29</td>
<td>0.240</td>
</tr>
<tr>
<td>1982-83</td>
<td>11.89</td>
<td>511</td>
<td>131.74</td>
<td>2.33</td>
<td>0.258</td>
</tr>
<tr>
<td>1983-84</td>
<td>(-3.37)</td>
<td>542</td>
<td>118.41</td>
<td>(-0.58)</td>
<td>0.218</td>
</tr>
<tr>
<td>1984-85</td>
<td>16.90</td>
<td>593</td>
<td>154.61</td>
<td>2.82</td>
<td>0.261</td>
</tr>
<tr>
<td>1985-86</td>
<td>(-1.91)</td>
<td>632</td>
<td>146.53</td>
<td>(-0.30)</td>
<td>0.232</td>
</tr>
<tr>
<td>1986-87</td>
<td>11.38</td>
<td>681</td>
<td>167.96</td>
<td>1.67</td>
<td>0.247</td>
</tr>
<tr>
<td>1987-88</td>
<td>(-13.05)</td>
<td>716</td>
<td>167.59</td>
<td>(-1.82)</td>
<td>0.234</td>
</tr>
<tr>
<td>1988-89</td>
<td>39.70</td>
<td>774</td>
<td>227.99</td>
<td>5.13</td>
<td>0.295</td>
</tr>
<tr>
<td>1989-90</td>
<td>48.45</td>
<td>858</td>
<td>247.37</td>
<td>5.65</td>
<td>0.288</td>
</tr>
<tr>
<td>1990-91</td>
<td>49.50</td>
<td>956</td>
<td>270.92</td>
<td>5.18</td>
<td>0.283</td>
</tr>
<tr>
<td>1991-92</td>
<td>44.78</td>
<td>NA</td>
<td>302.14</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1992-93</td>
<td>44.68</td>
<td>NA</td>
<td>335.46</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Source:** Compiled and Calculated from Administration Reports and Annual Accounts of Calcutta-Haldia Port for the above years.
Table VI
Fixed Assets Turnover at Calcutta Port (1980-81 to 1992-93) (Rs. Crore)

<table>
<thead>
<tr>
<th>Year</th>
<th>Operating Income</th>
<th>Gross Fixed Assets</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980-81</td>
<td>96.68</td>
<td>356</td>
<td>0.272</td>
</tr>
<tr>
<td>1981-82</td>
<td>109.12</td>
<td>350</td>
<td>0.312</td>
</tr>
<tr>
<td>1982-83</td>
<td>125.35</td>
<td>362</td>
<td>0.346</td>
</tr>
<tr>
<td>1983-84</td>
<td>113.41</td>
<td>377</td>
<td>0.301</td>
</tr>
<tr>
<td>1984-85</td>
<td>114.07</td>
<td>392</td>
<td>0.367</td>
</tr>
<tr>
<td>1985-86</td>
<td>136.67</td>
<td>403</td>
<td>0.339</td>
</tr>
<tr>
<td>1986-87</td>
<td>150.28</td>
<td>421</td>
<td>0.357</td>
</tr>
<tr>
<td>1987-88</td>
<td>154.20</td>
<td>430</td>
<td>0.359</td>
</tr>
<tr>
<td>1988-89</td>
<td>206.49</td>
<td>442</td>
<td>0.467</td>
</tr>
<tr>
<td>1989-90</td>
<td>223.57</td>
<td>485</td>
<td>0.461</td>
</tr>
<tr>
<td>1990-91</td>
<td>244.2</td>
<td>529</td>
<td>0.462</td>
</tr>
<tr>
<td>1991-92</td>
<td>256.62</td>
<td>NA</td>
<td>-</td>
</tr>
<tr>
<td>1992-93</td>
<td>307.21</td>
<td>NA</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Compiled and Calculated from Administration Reports and Annual Accounts of Calcutta-Haldia Port for the above years.

References/Readings

Shareholders' Value — Its Measurement by Accounting Tools and Value Drivers: An Empirical Analysis

Dr. R.K. Raul* and Dr. Sujit Sikidar**

Introduction

During the last two decades the international financial markets have witnessed some epoch making changes, like-deregulation of capital markets, free convertibility of currency, removal of restrictions by OCED countries on free flow of capital and establishment of global markets, allowing corporates to compete for raising finance through the route of GDRs, ADRs and IDR.s. The investors' attitudes have consequently been changed in favour of investment in capital market, rather than in physical assets or in fixed income securities. Their investment in pension and social security obligation and health care have considerably decreased. This has paved the way for the growth of institutions like pension funds and mutual funds. The investors' capital market orientation is further fuelled by the advent of PC based modelling software allowing them to access to qualitative and quantitative information of world wide corporate performance through inter-net, online trading, e-mail, e-commerce and infotech.

As a result of expansion of equity capital market world wide, the traditional stakeholder model (where equity market is less liquid and smaller, shareholders' power is concentrated amongst banks, government and families and market for corporate control is relatively non existent) has been more or less replaced by Anglo-Saxon model focussing on shareholders' value (SHV), characterised by a large and liquid capital market, greater power with institutional investors and an active market for corporate control (Puri & Malhotra-1999).

In the post reform era in India, since July 1991, private players are allowed access to banking, mutual funds, insurance, pension funds, (proposed), while corporates are exposed to international market, particularly for raising finance. The foreign institutional investors (FIIs) are allowed to participate in debt as well as equity market, either by direct purchase or through private placement. This phenomenon has given a boost to equity capital market. For instance, the market capitalisation of BSE increased from Rs. 1.1 Trillion in 1990-91 to Rs. 4.3 Trillion in 1996-97, while the number of listed companies on 23 stock exchanges, other than OTCEI, NSE and Inter Connected Stock Exchange of India (ICSEI), grew around 9,000 by March 1996 from 4,300 in 1985. The cumulative total of FIIs' investment increased from US $827.2 Million in 1993

* Reader, Department of Business Administration, Assam University, Silchar
** Professor, Department of Commerce, Gauhati University, Guwahati.
to US $865.1 Million in June 1998 followed by GDRs from US $240 Million to US $6151 Million and Mutual funds to US $1153 Million from the scratch during the same period.

In recent time, India made a quantum leap in capital market. With over 40 Million investors the country stands second in the world, in terms of investor population. The investors have become more serious about capital appreciation and annual returns, where by the corporate management has been forced to maximise shareholders' value (SHV).

**Objectives and Methodology**

An attempt has been made in this article to explore the objective of shareholders' value creation and its key drivers. Further it also attempts to project through empirical tests and analysis the extent to which corporate managements have succeeded in meeting the shareholders' expectation.

To measure SHV of the sample companies through quantitative variables statistical techniques, Correlation Coefficient (r), Analysis of Variance (ANOVA) test have been used on CMIE data.

**Significance of SHV**

In the present economic scenario investors' perception of the world around is constantly changing. They want appreciation in the "value" of their investment in capital market instruments. Emanating from this the expectation of "maximisation of wealth" has become a widely accepted objective of firms.

The terms 'value' and 'wealth' need further elaboration for the sake of this article. The 'value' is viewed in terms of benefits that the investment can produce. It focuses on 'cash flows' generated from investment, rather than accounting profit (Khan & Jain P.15-16), while 'wealth'-defined in respect of a firm, is its present worth i.e., current market value of the firm’s stock (Hampton, p-7). When an entity foresees high potential future it might lead to hike in current value as well. Thus the value will be created when:

a) The management having mobilised scarce resources deploys it in "efficient and effective" (Kaen 1995) manner yielding expected return for the stakeholders.

b) The productivity of the entity increases. By productivity is meant the ratio of output produced and cost of input pressed into that production service. For the purpose of SHV analysis 'net operating profit' (NOP) i.e. profit before depreciation but after interest and tax is equivalent to output, where as "weighted average cost of capital (WACC)" is recognised as input cost.

c) There is hike in P/E ratio as well as EPS (earning per share).

d) The marginal productivity of capital in a firm increases as compared to its competitors.

e) The existing investors receive a sustained rate of dividend in order to keep up the flow of investment. In the absence of this it might result in loss of market share with global competitiveness, unloading and flight of capital in search of alternative avenues with higher return.
The investment, financing decisions and governance of firm are therefore, tailored for preserving as well as increasing the value of investment made by the investors, individuals, other business owned by individuals or legal entities, such as mutual funds, pension funds. The policies which are mutually beneficial to the owners and other stakeholders (creditors, employees, bankers, customers, government etc) are implemented on the other hand, leading to maximising the present worth of the firm in long run and yielding higher value to the investors. The Cadbury Committee, UK (1991) on Corporate Governance had urged upon the management to create SHV as a new challenge for the next millennium.

**Measurement of SHV**

The basic maxim of a firm is to maximise the shareholders' wealth. The reason being that if this is done the claim of other stakeholders' wealth can be satisfied. The shareholders' wealth is measured by dividend paid and appreciation in the market value of the shares. The later is influenced by the shareholders' expectation about return on their investment. In this respect the management has significant role in satisfying the residual claimants. The question that arises is therefore, to measure the return on investment associated with shareholders' expectation. The financial yardsticks in this respect available are:

i) The Rate of Return on Net Worth (RONW)- This measure gives a relative account of the performance of a company in relation to its competitors, ignoring the minimum expectation of shareholders. A company may achieve higher rate of return as compared to its competitors but may not match the expectation of shareholders. On the other hand the RONW is based on profit after tax (PAT), which is a monetary concept of business income encapsulating the GAAPs and Accounting Standards (AS). The measurement of profitability is misleading in itself due to the inherent flexibility in accounting practices like estimation of life of a depreciable asset, creation of provisions, estimation of nonrecoverable debts, valuation of inventory, treatment of R&D expenditure, goodwill, cost incurred on human resource development and so on. Moreover, it avoids inflation, defies cost of capital incurred for making investment and ignores opportunity cost and also ignores risk adjusted rate of return. Thus, the RONW is a narrower measure of shareholder value. It focuses only on shareholders' wealth. A company having higher RONW is generally considered to have generated higher SHV. Higher RONW would also indicate higher capital efficiency, especially when rise is due to higher profit accruals.

ii) Other Measures : Return on Capital Employed (ROCE), Return on Equity (ROE) and Earning Per Share (ESP) also lack in proper benchmark for comparison. In each such measure "industry average" or "nearest competitors' performance" is used as benchmark, ignoring expectation of shareholders.

The EPS measure sounds much in taking care of wider range of expectation (consumption/saving preference, liquidity need etc.) of a variety of shareholders (individuals, institutions, legal entities) as it relates share price of equity of a company and annual return (dividend). Besides, liquidity preference of shareholders i.e., more dividend payment poses a threat to liquidity holding of the firm due to cash outflow. This is so because such cash (dividend) could have been invested in the firm for generating larger cash flows in future. Moreover, it is a short term measure based on arbitrary set of accounting rules.
To overcome the limitations of accounting based measurements of financial performance of companies, a consultancy firm, Stern, Stewart & Co. New York (1990) had devised an accounting method, "Economic Value Added (EVA)". In simple term, it considers the earning of a firm in excess of minimum expected return of the shareholders. Statistically, EVA is calculated as net operating profit (before interest but after depreciation and tax) less capital charges.

Symbolically,

\[ EVA = NOP - i.C.E. \]
\[ \quad = NOP - WACC \]

Where,

\[ NOP = \text{Net Operating Profit before Interest but after Depreciation and Tax.} \]
\[ CE = \text{Capital Employed} = \text{Net Fixed Assets plus Current Assets and Loans and Advances less Current Liabilities and Provisions.} \]
\[ WACC = \text{Weighted Average Cost of Capital, Debt and Equity} \]
\[ \quad \text{[Cost of Debt = Rate of Interest payable; Cost of Preference shares = dividend payable, and Cost of Equity i.e., cost determined using capital asset pricing model (CAPM)]} \]
\[ i = \text{Rate of Interest} : \text{In Indian context it may be taken as equivalent to prime lending rate of commercial banks and financial institutions. It is a flexible variable constantly changing and depends on market situation.} \]

EVA considers all aspects of a company's financial management, from capital budgeting, acquisition and pricing to strategic planning and shareholders' communication, apart from identifying value addition to shareholders by the organisation during specific period. It also takes into account the minimum expectation of shareholders. However, calculation of NOP is a complicated affair. The Stern, Stewart & Co. have suggested 164 adjustments in accounting profit to arrive at true economic profit. This demands free flow of relevant information and technical expertise posing problems on its wider acceptability. Moreover, EVA ignores inflation and is expressed in absolute terms. As a result, in case of companies making new investment, EVA will turn to be low, even if the rate of return is more than that of others. It is undoubtedly sound philosophy still to depend on variables selected from the financial statements despite several adjustments. Influence of the market forces can not be overlooked while recognising SHV.

**SHV Drivers: Empirical Evidence in Indian Context**

Nothing can create SHV overnight. Shareholder value orientation of companies is a continuous process. The government and the internal management have an important role in that process. The former creates a conducive atmosphere for the later. In India, government owned companies, till to date, are managed on socialistic principles where the shareholders' return gets least priority. The mounting fiscal deficit over the years has led the governments to slash down the budgetary support to them and allowed them to participate in the international money market for raising resources. Gradually governments' off-loading the investment has made these companies SHV conscious. This can be observed in Table 1.
Table 1
Control Vs SHV: Indian Scenario

<table>
<thead>
<tr>
<th>Sector</th>
<th>Degree of Government control/influence</th>
<th>Degree of Government ownership</th>
<th>Global orientation</th>
<th>Share performance relative to market</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Oil, Tele-Com., Banking and Finance</td>
<td>High</td>
<td>High</td>
<td>Low</td>
<td>Average</td>
</tr>
<tr>
<td>b) Engg., Steel &amp; Auto</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Average</td>
</tr>
<tr>
<td>c) Consumers' Goods</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td>Good</td>
</tr>
<tr>
<td>d) Technology</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Very good</td>
</tr>
</tbody>
</table>


The table delineates that the companies that have been relatively free from government control and influence and had a higher global orientation have delivered better shareholders' value performance than others. Since they have competed in the market to raise the required funds they have turned accountable to investors with a view to resist flight of capital. The quantum leap, of late, of FIs and GDRs investment is due to SHV orientation of the companies. However, fresh investment poured into the economy when it followed a sustainable growth curve. The radical changes in economy since 1991 were not much catalytic in this respect, as the industrial scenario was subdued at the moment (Raul, 1999). The investment through Industrial Entrepreneurs' Memorandum (IEM) and Letter of Intent (LOI) have declined since 1996. Moreover, the performance of infrastructure industries have not been established. Thus, creation of growth syndrome in infrastructure sector should be emphasised so that it can take care of the entire economy. In the same measure increasing globalisation of Indian corporates, privatisation, greater exposure of government companies to equity market, financial sector reforms, widening the scope of free flow of funds into the corporate sector would provide a congenial atmosphere for the growth of corporate sector and finally lead to SHV creation. The actual growth of the corporates mainly lies with internal policies relating to corporate restructuring, selling of ineffective divisions, reduction of debt, stock splitting, foreign collaborations, mergers and acquisitions, brands and more importantly R & D expenditure. They are considered key drivers of SHV. The influence of some of these factors on SHV is discussed here.

a) Stock Splitting

Stock Splits are like giving two shares of Rs. 10 for one share of Rs. 20 (A 2-for-1 stock split doubles the number of shares outstanding and cuts the value of stock into half). Through stock split companies aim to maintain higher trading range and prevent it falling to new low after the split goes into effect. Moreover, the company can keep the interest of small investors who may be scared off by high stock prices. The stock splits thus though attract average investors but do not create value.

In Indian context, the practice of splitting the face value of a share, say from one share of Rs. 100 to ten shares of Rs. 10, has been followed by corporate majors including Tatas; Teclo
and Tisco, Crompton Greaves, Century Textiles, HDFC Ltd (August 1999), which had initially equity shares with a face value of Rs. 100 each. This was done to add to shareholders' value in past through better access to the stock for investors.

However, the efficacy of the practice has fizzled out in the market now. Century Textiles, which did it in 1998, could not achieve any improvement in the share value. During January-November 1998, stock prices of Century Textiles declined by 49.3pc, followed by Tisco (-30.7 pc), Greaves (-10.7 pc) (Basic data from The Economics Times, December 11, 1998)

The EVA of these companies, expressed in terms of NOP less capital cost at 13 pc, is almost equal to the prime lending rate of commercial banks and financial institutions. A study by T.K. Mahanti (1999), based on a sample of 100 companies revealed that 40 pc companies had negative EVA in 1998-99. The Tata Steel led the defaulters list with a negative EVA of Rs. 539.73 crore, followed by Tata Engineering (Rs. 274.48 crore), Century Textile (Rs. 206.44 crore).

Thus shareholders' value may increase soon after the subdivision takes place but will not sustain it in the long run.

b) Brand Power

Brand is a sign of identification, the lebel which differentiates the product of a company from its competitors. It encapsulates key features of the product such as its image, use and price, in an easily recognised and remembered form (Anthony Finnat, 1994, P.33). Branding is essential, as consumers demand products of brand, quality and image with demonstrative notion.

As regards brand power creating SHV empirical evidence suggests that it has not performed well in Indian context. For instance, in case of Bajaj Auto, a blue chip company with best known brand in the country, the operating margin came down from 22.4 pc to 19.5 pc and the return on equity declined from 33.7 pc in 1995-96 to just 19.5 pc in 1998-99. It may be attributed to the emergence of competitors, Japanese motor cycles could be sold more, aided by discount. Thus, despite powerful brand a cash rich company, two attributes that are supposed to drive SHV, nobody is enthused by the scrip. Moreover, its flagship product declined by 29 pc in July 1999.

Brand loyalty is hardly rock solid for a bulk item like cement. Several producers like Larsen & Tubro, AV Birla flagship Grasim had increased their capacity so as to grab up the market share from ACC. But due to keener competition with the presence of global majors like Lafarge, the stock price of L & T declined by 25 pc and that for ACC by 2.86 pc on Nov. 1, 1999. The evidence thus suggests that stock refuses to budge even though it is a great brand, while their competitors made profit and are powering ahead. On the other hand, the slow down in economic growth has put pressure on the industry. The market capitalisation of S & P-CNX- cement & cement product index declined from Rs. 9,816.67 Crore on March 1, 1996 to Rs. 4,635.51 Crore on November 28, 1998. The P/E ratio also declined from 16.64 times to 10.8 times during that period.

Thus creating SHV through brand may be a one time move, but it is not sustainable in the long run. The companies, especially those making consumer durables, hardly see these as main growth drivers. Not withstanding great brand and standard product, SHV of these companies has been abysmal.
R & D Expenditure

The established parameters for measuring growth of a company are innovation, launching of new product, continuous improvement in product quality and return on capital. Indian pharmaceuticals have emphasised on almost all growth achieving parameters. As a result their stock prices have zoomed appreciably, faster than that of the MNCs. It has been observed that share prices of 7 out of 10 domestic pharmaceutical companies have increased by 50 pc or more, while 3 MNCs (Glaxo, Burroughs, Wel, Phyzer) have stagnated during June-August, 1999 (Basic data from Investor Guide, The Economic Times, August 30, 1999).

This may be attributed to R & D effort and wide accessibility to world wide market in particular. For instance, Ranbaxy’s R & D expenditure increased by 23.8 pc to Rs. 13 crore for the quarter ended September 30, 1999 from Rs. 10.5 crore in the corresponding period of previous year. Further it targeted it at 6 pc. of the turnover by 2002. The profit after tax (PAT) shot up by 54.6 pc to Rs. 77.9 crore from Rs. 50.4 crore during the same period last year. This spurt in net profit is driven essentially by Rs. 43.5 crore technology licensing income the company received from Bayer AG during September’ 1999. When the company announced royalty agreement with the global pharma major the scrip was among the highest traded at both the bourses, clocking a volume of Rs. 341 crore on NSE and Rs. 278 crore on BSE. Moreover, the agreement could enable the company access to cash which could be pumped into R & D and that could further boost the company’s bottom line of SHV.

Thus the sustainability of growth of companies as well as creating SHV depends on innovation through R & D activity. In indian context, except for at R & D Divisions of private sector companies, with the advent of WTO alongwith restrictions imposed by developed countries on flow of technology, the domestic companies will be edged out through competition, unless technological upgradation is done at home. The industrial sector in India however, showed marked trend of technological inertia. Moreover, technological changes have not been a central theme of the New Economic Policy, though its various provisions directly or indirectly had a bearing on stimulating R & D, particularly by opening up domestic industry to foreign competition. A question that generally crops up is whether corporate India is concerned about the future fallout? In this respect the top ten corporate giants in India, Telco, Ranbaxy Lab, Reliance Industries, M & M, Bajaj Auto, Crompton Greaves, L & T, MRF, TISCO and ACC) under the private sector having sales turnover more than Rs. 1,000 crore in 1998-99 were considered. The correlation matrix obtained is given in Table 2.

<table>
<thead>
<tr>
<th>Variables</th>
<th>EVA</th>
<th>R &amp; D Exp.</th>
<th>Sales volume</th>
<th>Profit volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVA</td>
<td>1.000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R &amp; D Exp.</td>
<td>0.035(0.0991)</td>
<td>1.000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sales volume</td>
<td>-0.292(0.8635)</td>
<td>0.067(0.1897)</td>
<td>1.000</td>
<td>-</td>
</tr>
<tr>
<td>Profit volume</td>
<td>-0.371(1.1299)</td>
<td>-0.279(0.86)</td>
<td>0.418(1.304)</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Source: Computed from Basic Data from CMIE, (EVA=NOP less Capital Cost at 13pc interest). Figures in parentheses indicate the “t” value.
The table discerns that the correlation (r) irrespective of the sign was not significant at 5 pc level. The positive 'r', though not significant, indicated that there was a scope of increasing EVA with more inhouse research leading to increased turnover and accelerated profit margins. However, the EVA was negatively associated with sales and profit volume. This indicated that the sample corporates were unable to meet investors' expectations. They have spent about 0.66 pc of sales turnover on R & D operations, more specifically Reliance Industries spent 0.28 pc of its sales turnover on R&D. The Tata Steel, which spends huge amount on modernisation, technological upgradation and diversification, spent 0.2 pc only of its total turnover. The total R&D expenditure of the sample companies had declined by 5.5 pc from Rs. 357.38 crore in 1997-98 to Rs. 337.52 crore in 1998-99, and did not contribute to the creation of SHV. The Indian industrial sector thus was marked by a sort of technological inertia, as it spent little on inhouse-research. Under the circumstances a logical inquiry is required in respect of corporate performance in creating SHV.

In this respect, a sample of 100 companies grouped into 6 industries (Software, Pharmaceuticals, Power, Cement, Fertilizer and Engineering) under the private sector was considered. The EVA (as defined earlier) of these companies over three years ending 1998-99 was also considered. ANOVA test was performed on these data to identify industry wise SHV creating capacity. The results are summarised in Table 3.)

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>df</th>
<th>SS</th>
<th>MSS</th>
<th>F</th>
<th>F_{0.05}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between the Industries</td>
<td>5</td>
<td>362335.87</td>
<td>72467.174</td>
<td>8.1829</td>
<td>3.33</td>
</tr>
<tr>
<td>Between the years</td>
<td>2</td>
<td>16624.548</td>
<td>16624.548</td>
<td>0.9386</td>
<td>4.10</td>
</tr>
<tr>
<td>Error</td>
<td>10</td>
<td>88559.232</td>
<td>8855.923</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Computed from, Basic data from *The Economic Times* - September 19, 1999

It is evident from Table 3 that the ratio of variation ('F' Ratio) between industries was significant (F>F_{0.05}). This indicated that creation of SHV among industries differed significantly. This is further confirmed from the basic data. The industries like Software were on the top in creating SHV followed by Pharma, Cement and Power, while the Fertilizer and the Engineering industries turned out to be value destroyer. The reason may be that, since these companies failed to upgrade the product quality through R&D operation their sales turnover had declined leading to erosion of corporate value. This is re-confirmed by our earlier correlation analysis where 'r' between sales turnover and R&D expenditure turned out to be positively but not significant, indicating thereby the need for enhancing the R&D operations.

The 'F' Ratio between years was not significant. This indicated that despite impetus in the New Economic Policy and the essential requirement during the next millennium (Cadury Committee) industries were ignoring investors' expectation. In other words large companies have earned less over the years than the shareholders' expectation.
Epilogue

The foregoing study discerns that in the changed economic environment the corporate sector has recognised the creation of shareholders’ value as a pre-requisite of sustainable growth. Further SHV is the only matrix for the evaluation of stakeholders’ claim and to provide long-term vision to the management as well as residual claimants for marshalling the scarce resources to win over the competitors in the long-run.

The measurement of SHV reflected that the corporates’ attitude in meetings shareholders’ expectation was still in embryo stage. The ROWN, ROCE, ROE and EPS were only accounting measures constructed based on an alternative set of accounting rule-GAAP and AS. This hardly served the purpose for comparison.

Recently developed technique, known as EVA, for increasing SHV is however, free from accounting based limitations. This measure ignores inflation and requires free flow of relevant information from the corporate entity along with technical expertise to arrive at true economic profit.

As regards the key drivers of SHV, namely stock splitting, brand power and R&D operation, the authors observed through financial performance of the sample companies and statistical tests that R&D operation of corporates was a growth sustaining force. The ANOVA suggested that despite impetus in the new economic policy and the demand of the next millennium the corporate sector in India was unable to meet the investors’ expectation.

To survive in the new millennium with the dictate of corporate governance the corporate entities should therefore, put greater effort towards ensuring shareholders' value.

References:

2. Kaen, Fred R, Corporate Finance, Blackwell (USA), 1995
8. Tennant, Sir Anthony : "Creating Brand Power", in Paul Stobart, Brand Power (ed-) Macmillion 1994, P.33-34.
Insider Trading—An Empirical Analysis

Dr. G.L. Malodia* and Sanjeev Gemawat**

Greed is the driving factor behind corporate fraud. Although there was no documented evidence, it is generally felt that corporate fraud are on the rise. The Indian Corporate Sector, within the context of invincible malpractices of the stock market, has something to say for itself after all.

The findings of the research study done to assess the quality of existing legislation in India; perhaps the first study of its kind, suggests that corporate frauds are almost impossible to monitor due to poor evidence and few enforcement resources. Based on the survey of 33 different companies and the responses of investors, merchant-bankers, government authorities, SEBI, brokers, stock exchanges and academicians, the research study offers some interesting conclusions. Almost all agree that the most likely culprits in market manipulation or insider trading are company directors, brokers and members of the financial community, with no previous record of criminal activity. Further, majority of respondents agree that such crimes are almost impossible to monitor, due to poor evidence and ineffective enforcement resources.

The objective of the present study was two-fold. First, to assess the existing regulatory framework to check insider trading and to protect the interests of investors and to assess the world wide trend in insider trading regulation and how does India measures up. Second, in the light of the findings, to conduct a survey of select market participants to assess what more need to be done.

The objective, methodology and conclusions of the study should be viewed in the context of the development of capital market and the consequent changes in the regulatory framework.

Copies of the questionnaire were sent to 300 investors in metro areas. Out of 300 investors 146 responded. Further, 250 copies of the questionnaire were sent to investors and professionals in other towns and cities, out of whom responses were received from 136, as given in Table 1

<table>
<thead>
<tr>
<th>Place</th>
<th>Questionnaire Sent</th>
<th>Responses Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahmedabad</td>
<td>75</td>
<td>43</td>
</tr>
<tr>
<td>Mumbai</td>
<td>75</td>
<td>52</td>
</tr>
<tr>
<td>Calcutta</td>
<td>75</td>
<td>12</td>
</tr>
<tr>
<td>Delhi</td>
<td>75</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>146</td>
</tr>
</tbody>
</table>

* Associate Professor, Department of Accounting, J.N. Vyas University, Jodhpur
** Company Secretary, Modi G.B.C. Ltd., New Delhi.
Investors were selected at random from telephone directories, directories of members of professional bodies and directories of shareholders of various companies. This selection was deliberate one and to that extent bias existed. It must be noted that universe for the present study excluded those persons whose financial status was weak. It was assumed that persons selected from aforementioned directories were in a better position to make investment decisions.

During the course of study, it was also observed that persons in the age-group 25-35 responded favourably and out of total 146 respondents from metros, 93 were from 25-35 age-group. Table 2 shows the respondents on the basis of their age-group.

<table>
<thead>
<tr>
<th>Age-group (Years)</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-25</td>
<td>7</td>
</tr>
<tr>
<td>25-35</td>
<td>93</td>
</tr>
<tr>
<td>35-55</td>
<td>37</td>
</tr>
<tr>
<td>55-75</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>146</td>
</tr>
</tbody>
</table>

Table 3 shows that persons in the age-group of 25-35 were more aware about their rights and stock market information. It also showed that in future the society will be better aware of the stock market information.

Interestingly when common investors were asked about stock market, 97% responded with “Yes” in Metros, Class A and Class B+ cities. Most of them felt that it was an easy course of action to money. However, when asked about the term Insider Trading only 26% respondents said that they have heard the term. Out of 26% only 8% could answer what exactly Insider Trading was? Rest were not sure about the meaning of the term.

However, when asked in simple words about ‘Insider Trading’ saying ‘Do you know that management and officials of companies hide certain information and get benefitted,’ nearly 38% responded favourably, while 12% said ‘No’ and the remaining respondents were not sure about it.

Almost 62% of the total respondents who were aware about ‘Insider Trading’ agreed that the most common indicator of Insider Trading was fluctuation in share prices, while nearly 54% agreed that purchase and sale of shares by directors and company officials was the most common indicator of Insider Trading.

Interestingly when market participants and persons having inside information of a company were asked, “whether at any time they indulged in Insider Trading?”, nearly 67% of them responded favourably. These market participants and persons included company directors, company officials, brokers, merchant bankers and staff of top functionaries of the companies.

During interview with the CEOs/MDs/Directors/Vice-Presidents (Finance)/Company Secretaries, 27 out of 33 admitted that in one way or the other they were instrumental in Insider Trading. Almost all agreed that they shared the inside information with their relatives/friends.

One surprising justification given out by company promoters, directors and brokers about insider trading was that it was their right to get benefit from inside information, as they have put
in their resources, time and energy and their stakes in the companies were higher as compared to general public. The responses of various participants in the market to the question, “Do we need to check insider trading?” are given in Table 3

**Table 3**

Responses of Market Participants to Need of Controlling Insider Trading

<table>
<thead>
<tr>
<th>Participant</th>
<th>Response</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Cannot say</td>
</tr>
<tr>
<td>Company Promoters</td>
<td>36%</td>
<td>59%</td>
<td>5%</td>
</tr>
<tr>
<td>Company Directors</td>
<td>43%</td>
<td>53%</td>
<td>4%</td>
</tr>
<tr>
<td>Company Officials</td>
<td>47%</td>
<td>41%</td>
<td>12%</td>
</tr>
<tr>
<td>Brokers</td>
<td>39%</td>
<td>37%</td>
<td>24%</td>
</tr>
<tr>
<td>SEBI/Govt. Officials</td>
<td>96%</td>
<td>---</td>
<td>4%</td>
</tr>
<tr>
<td>Stock Exchange Officials</td>
<td>89%</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>Investors</td>
<td>52%</td>
<td>22%</td>
<td>26%</td>
</tr>
</tbody>
</table>

**Test of Significance**

The results of the empirical study were tested in the light of the hypotheses taken for the study. The results show that the hypotheses were almost absolutely correct and fair under the present Indian Stock Market situation.

The results are presented in the light of each of the five hypotheses tested one by one.

1. Stock Market information is neither freely available nor rapidly transmitted to all the participants of the market.

Nearly 84% of the respondents agreed that corporate frauds could be committed because of lack of information with the investors. Interestingly, they believed that Indian media is more inclined towards political news and views, rather than economic and financial news.

**Fig. 1**

![Pie Chart]

2. The organisation and infrastructure of stock markets are inadequate to cope up with the increasing number of securities transactions.

Nearly 76% of the respondents suggested that the organisation and infrastructure of stock markets should be extended to unfavourable areas and remote locations. They believed that a large chunk of prospective investors reside in these areas and for stock market information they are wholly dependent upon sub-brokers. These sub-brokers were not adequately
equipped for providing information to investors.

3. Calculated attempts are made by many companies to circulate "misinformation". Nearly 62% of the respondents agreed that actual results which appear after the closure of the public/right issue in some cases show variation of such a high magnitude that they create suspicion about their authenticity. They believed that many companies made attempts to conceal positive information detrimental to the interest of less informed or uninformed investors. Interestingly, 34% of the respondents responded with can't say', which suggested that awareness about stock market manipulations was relatively poor.

4. Investors' information processing capabilities are sharply limited, due to low level of education and awareness about investment.

Nearly 73% of the respondents agreed that for analysing stock market information for investment, they were wholly or partially dependent upon brokers/sub-brokers. This suggested that information processing capabilities of the investors were sharply limited, due to low level of education and awareness about stock market investment.

5. There is no effective mechanism to check unfair and unhealthy practices—viz., Insider Trading prevalent in stock markets.

57% of the respondents agreed that market malpractices, such as Insider Trading, were such crimes which were almost impossible to monitor, due to poor evidence and ineffective
enforcement. Interestingly, 39% of the respondents responded with 'Can't say', which suggested that SEBI should popularise its laws and enforcement mechanism.

![Fig 5](image)

**Conclusions**

The empirical analysis given above suggested that the hypotheses taken, with reference to Indian Stock Market, were proved correct. From the point of view of investors, a general lack of transparency in trading system and inefficiency in price information, on account of possible manipulation, led to loss of confidence in the fairness and integrity of stock market. Imagine the position of poor investors who have been waiting for years on now for a reward, but were denied the same just near the victory line, due to unfair means by management. Companies were not giving equal chance to all. It rather amounted to some sort of cheating. Such malpractices should not be allowed to go unchecked.

The smooth operation at stock markets, their healthy growth and development depended to a large extent on the quality and integrity of the market. Such a market can alone inspire confidence among investors. Factors on which this confidence depends include, inter alia, the assurance the market can afford to all investors, that they are placed on equal footing and are protected against improper use of inside information.

One interesting outcome of the study suggested that the **corporate sector need to be disciplined** in the matter of financial projections. Companies' actual results, which appear after the closure of public/right issues, in some cases showed variation of such a high magnitude that they created suspicion about the authenticity of the projections or of the actual results. How such a wide variation in the projections and the actual results could come about when the time gap was just two to three months? If it is due to sudden change in business environment then it may be appreciated provided the company comes out with details of factors responsible for such a dramatic change in the actual results, so as to justify the projections and the actual results. This will satisfy the investors. Provision of proper inquiry and appropriate action in such cases was necessary for the development of healthy capital market in our country. Securities and Exchange Board of India may consider coming out with guidelines for insider trading in the primary market on the lines it had framed for insider trading in the secondary market.
Market Transfers in Paperless Trading

Shiv Prasad

The settlement of trades in the Indian capital market is in the process of shifting to dematerialised form. In dematerialised form of trading, trades in securities markets are settled electronically, unlike the past system where securities are delivered physically.

Dematerialisation is the process by which a client can get physical certificates converted into electronic balances maintained in its account with a Depository Participant (DP). Securities held in dematerialised form are fungible, i.e., they do not bear any distinguishing features.

An investor intending to dematerialise his securities needs to have an account with a DP. The client has to deface and surrender the certificates registered in its name to the DP. After intimating the NSDL electronically, the DP sends the securities to the concerned Issuer/R&T agent. The NSDL in turn informs the Issuer/R&T agent electronically about the request for dematerialisation. If the Issuer/R&T agent finds the documents in order, it registers the NSDL as the holder of the securities and confirms to the NSDL electronically. On receiving such confirmation, the NSDL authorises credit to the relevant client account with the DP.

Market Transfers

Trading in dematerialised securities is similar to trading in physical securities. A major difference is that at the time of settlement, instead of delivery/receipt of securities in physical form, the same is affected through account transfers.

Features

Trades which are settled through the Clearing Corporation/Clearing House of an exchange are classified as “Market Trades”.

As shown in figure 1, the selling client and clearing member 1 have their respective accounts with DP1 and the buying client and clearing member 2 have their respective accounts with DP2. DP1, DP2 and Clearing Corporation/ Clearing House have on line electronic connectivity with the NSDL. The following shall be the flow of securities to effect settlement of a market trade.

Step 1 - Seller gives delivery instruction to DP1 to debit his account and transfer securities to “Clearing Member1 Pool A/c” with DP1. (Clearing Member1 gives corresponding receipt instruction to DP1 to accept in his clearing account securities transferred by seller through DP1, if he has not already given standing receipt instruction for all credits into his clearing account.

* Assistant Professor, Faculty of Management Studies, MDS University, Ajmer- 305 001
Procedure in Case of Market Transfer for Retail Investors

\[
\text{NSDL} \\ \\
\uparrow \\
\text{DP 1} & \text{CC/ CH} & \text{DP 2} \\
\downarrow \\
\text{Clearing Member1 A/c} & 1 & 2 & 3 & 4 & 6 & \text{Clearing Member2 A/c} \\
\text{D} & \text{P} & \text{R} & \downarrow \\
\text{Selling Client A/c} & \text{D- Delivery} \\
\text{P- Pool} \\
\text{R- Receipt} \\
\text{Buying Client A/c} & 5 & 7
\]

**Figure 1**

**Step 2**- Securities are transferred from “Selling Client A/c” to “Clearing Member1 Pool A/c” with DP1.

**Step 3**- Clearing Member1 gives delivery to **CC instruction** to DP1 to debit his “Clearing Member1 Pool A/c” and credit his “Clearing Member1 Delivery A/c”. The transfer will take place on the “execution date” mentioned in the instruction. Delivery to CC instruction to be given as per final/net delivery obligation. Delivery to CC instruction can be reversible or irreversible. Reversible instructions can be cancelled at the discretion of the CM.

**Step 4**- Securities lie in the “Clearing Member1 Delivery A/c” till settlement day. On settlement day (5th working day from trade day), securities lying in “Clearing Member1 Delivery A/c” are automatically flushed to the Clearing Corporation/Clearing House. No debit instruction is needed for this transfer. The **deadline time** for pay-in of securities to the Clearing Corporation/Clearing House may vary from one exchange to another.

**Note:** If excess securities are transferred to “Delivery A/c”, the old instruction can be cancelled and replaced by a new one before the NSDL deadline, provided the instruction was marked as reversible. If excess delivery is made to the Clearing Corporation/Clearing House, the excess will automatically get credited to “Clearing Member Pool A/c” on pay-out.

**Step 5**- On settlement day (5th working day from trade day) securities are transferred from the Clearing Corporation/Clearing House to “Clearing Member2 Receipt A/c” with DP2. No credit instruction is needed because this transfer is automatic.

**Step 6**- Securities are transferred from “Clearing Member2 Receipt A/c” to “Clearing Member2 Pool A/c”. Receipt account of clearing member is purely a transit account for maintaining audit trail.
Step 7- Clearing Member2 gives a delivery instruction to DP2 to debit his “Clearing Member2 Pool A/c” and credit “Buying Client A/c” with DP2. (Buyer gives corresponding receipt instruction to DP2 to accept in his account securities transferred from “Clearing Member2 Pool A/c” through DP2, unless he has not given a standing instruction to receive credits to his account).

Note: Funds are not handled by the NSDL. Clearing Member2 obtains cheque from buyer and gives it to the Clearing Corporation/Clearing House. Only after the cheque is cleared by clearing bank, the Clearing Corporation/Clearing House allows credit of securities to clearing member2 and thereafter, communicates the match to the NSDL.

Step 8- Securities are transferred to “Buying Client A/c” from “Clearing Member2 Pool A/c” with DP2.

Note: Until delivery instruction is given by the clearing member, the securities remain in his “Pool A/c”. However, if they are not transferred to a “Beneficial Owner A/c”, the securities will not be eligible to any corporate benefits like bonus, dividends etc.

Summary of Procedure

Pay-in of Securities

<table>
<thead>
<tr>
<th>Step No.</th>
<th>Activity</th>
<th>Day</th>
<th>Instruction*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 &amp; 2.</td>
<td>Seller Client (BO)A/c Dr. To CM1 Pool A/c Cr.</td>
<td>ED (On or before SD)</td>
<td>Seller Client- Delivery institution CM1 - Receipt instruction or standing instruction</td>
</tr>
<tr>
<td>3.</td>
<td>CM1 Pool A/c Dr. To CM1 Delivery A/c Cr.</td>
<td>ED (On or before SD)</td>
<td>CM1- Delivery to CC instruction</td>
</tr>
<tr>
<td>4.</td>
<td>Securities flushed from CM1 Delivery A/c to CC/CH</td>
<td>SD</td>
<td>Automatic (No instruction required)</td>
</tr>
</tbody>
</table>

Pay-out of Securities

<table>
<thead>
<tr>
<th>Step No.</th>
<th>Activity</th>
<th>Day</th>
<th>Instruction*</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>CM2 Receipt A/c flushed with securities</td>
<td>SD</td>
<td>Automatic (No instruction required)</td>
</tr>
<tr>
<td>6.</td>
<td>CM2 Receipt A/c Dr. To CM2 Pool A/c Cr.</td>
<td>SD</td>
<td>Automatic (No instruction required)</td>
</tr>
<tr>
<td>7 &amp; 8.</td>
<td>CM2 Pool A/c Dr. To Buying Client (BO) A/c Cr.</td>
<td>ED (On or after SD)</td>
<td>CM2- Delivery instruction Buying Client- Receipt instruction or standing instruction</td>
</tr>
</tbody>
</table>

* Selling and buying clients and CMs (Clearing Members) should keep in mind their respective DP’s deadline for giving their instructions.

ED: Execution day, the day on which securities are transferred between accounts.

SD: Settlement day. The deadline time for pay in and pay out of securities on SD may vary as per exchange.
Procedure in Case of Market Transfers for Institutional Trades

Institutional trades can be settled in the same manner in which other trades are settled in the market. However, as per the market practice these are settled in either of the two modes explained below.

1. **Direct Custodial Settlement (DCS) Mode:** In this case, the trading member (broker) at the time of entering the trade, will notify through a trading terminal that this trade would be settled by the custodian of the institution on whose behalf he has effected the trade. For this purpose all the custodians are members of the CC/CH. Once the custodian confirms this, the CC/CH would download the trade obligation statements to the clearing custodian. Based on this the custodian would effect the settlement formalities and the broker would have no role to play in this.

![Diagram]

**Figure 2**

In a DCS trade, since the custodian of the trading institution acts as a clearing member to settle the trade, the custodian will open a clearing account with its own DP outfit. The custodian of the institution also acts as its DP (all custodians providing services to local and foreign institutional investors have joined the NSDL as DPs). In this case, clearing member1 and clearing member2 have an account with their own DP outfit i.e. DP1 and DP2 as shown in figure 2. The selling and buying institutions have accounts with DP1 and DP2 respectively (who are also their custodians).

**Step 1** - DP1 (who is also the custodian and clearing member of institutional seller) debits the institutional seller's account and credits his “own Clearing Member1 Pool A/c”.

**Step 2** - DP1 debits “own Clearing Member1 Pool A/c” and credits “own Clearing Member1 Delivery A/c”.

**Step 3** - Securities lie in the “own Clearing Member1 Pool A/c” till settlement day. On settlement day (5th working day from trade day), securities lying in “own Clearing Member1 Delivery A/c” are automatically flushed to the Clearing Corporation/Clearing House. The deadline time for pay-in of securities to the Clearing Corporation/Clearing House may vary from one exchange to another.
**Step 4**- On settlement day (5th working day from trade day) securities are transferred from the Clearing Corporation/Clearing House to “own Clearing Member2 Receipt A/c” with DP2 (DP2 is also clearing member and custodian of institutional buyer).

**Step 5**- Securities are transferred from “own Clearing Member2 Receipt A/c” to “own Clearing Member2 Pool A/c”. Receipt account of clearing members is purely a transit account for maintaining audit trail. Thereafter, DP2 debits “own Clearing Member2 Pool A/c” and credits the institutional buyer’s account.

*Note:* Funds are not handled by the NSDL. Clearing Member2 (who is also custodian for institutional buyer) gives cheque directly to the Clearing Corporation/Clearing House. Only after the cheque is cleared by clearing bank, the Clearing Corporation/Clearing House allows credit of securities to clearing member2 and thereafter, communicates the match to the NSDL.)

### Summary of Procedure

#### Pay-in of Securities

<table>
<thead>
<tr>
<th>Step No.</th>
<th>Activity</th>
<th>Day</th>
<th>Instruction*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Selling institution (BO) A/c Dr. To CM1 (Custodian) Pool A/c Cr.</td>
<td>ED = SD</td>
<td>Custodian of Institution- Delivery Institution CM1-Receipt instruction or standing instruction</td>
</tr>
<tr>
<td>2</td>
<td>CM1 (Custodian) Pool A/c Dr. To CM1 (Custodian) Delivery A/c Cr.</td>
<td>ED = SD</td>
<td>CM1- Delivery to CC institution</td>
</tr>
<tr>
<td>3</td>
<td>Securities flushed from CM1 (Custodian) Delivery A/c to CC/CH. Clearing Bank A/C Dr. To CM (Custodian) Fund A/c Cr.</td>
<td>S.D.</td>
<td>SD Automatic (No instruction Required) Direct Credit.</td>
</tr>
</tbody>
</table>

#### Pay-out of Securities

<table>
<thead>
<tr>
<th>Step No.</th>
<th>Activity</th>
<th>Day</th>
<th>Instruction*</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>CM2 (Custodian) Fund A/c Dr. To Clearing Bank A/c Cr.</td>
<td>SD</td>
<td>Debit from CMs Fund A/c</td>
</tr>
<tr>
<td>5</td>
<td>CM2 (Custodian) Receipt A/c flushed with securities</td>
<td>SD</td>
<td>Automatic (No instruction Required)</td>
</tr>
<tr>
<td>6</td>
<td>CM2 (Custodian) Receipt A/c Dr. To CM2 (Custodian) Pool A/c Cr.</td>
<td>SD</td>
<td>Automatic (No instruction Required)</td>
</tr>
<tr>
<td>7</td>
<td>CM2 (Custodian) Pool A/c Dr. To Buying Institution (BO) A/c Cr.</td>
<td>ED (On or after SD)</td>
<td>CM2- Delivery institution Custodian of Institution-Receipt instruction or standing instruction</td>
</tr>
</tbody>
</table>

*The instructions on behalf of the institutions are given by the respective custodians to their own DP outfit.

*ED- Execution day, the day on which securities are transferred between accounts.*
SD- Settlement day. The **deadline time** for pay in and pay out of securities on SD. It may vary from one exchange to another.

2. **Delivery Vs. Payment (DVP) Mode**: In this case the trading member (broker) settles the trade with the Clearing Corporation/Clearing House as the clearing member and settles the same with the custodian of the institution in DVP mode. This means for a sale transaction, the trading member would effect the payment of funds to the custodian of the selling institution and take delivery of the securities before the pay-in and uses the same to settle with the Clearing Corporation/Clearing House. For a buy transaction, the trading member would deliver his own funds to the Clearing Corporation/Clearing House at the time of pay-in and take delivery of the securities from the Clearing Corporation/Clearing House at the time of pay-out. These securities are in turn delivered to the custodian of the buying institution and then funds are received from them.

Since online transfer is possible in the NSDL environment, the duration of funding by the trading member would be much lower for dematerialised securities as compared to physical securities. For DVP trades, this reduces the **transaction cost**.

In a DVP trade, the trading member (broker) settles the trade with the Clearing Corporation/Clearing House as the clearing member and settles the same with the custodian of the institution in DVP mode. The custodian of the institution, in the context of the NSDL is also the DP, as all custodians providing services to local and foreign institutional investors have joined the NSDL as

![Diagram](image-url)

**Figure 3**

DPs. In this case, the selling institution and clearing member1 (who is also the trading member of the selling institution) have their respective accounts with DP1. The buying institution and clearing member2 (who is also the trading member of the buying institution) have their respective accounts with DP2. DP1, DP2 and Clearing Corporation/Clearing House have on line electronic connectivity with the NSDL. The flow of securities to effect settlement of a DVP trade is given in figure 3. The steps are:
Step 1- Securities are transferred from “Selling Institution A/c” to “Clearing Member1 Pool A/c” with DP1, on clearing member1 giving receipt instruction to DP1. If clearing member 1 has already given a standing receipt instruction to receive all credits to his clearing account, he need not give a separate receipt instruction. The custodian of selling institution gives a corresponding delivery instruction to its own DP outfit i.e. DP1.

Note: Custodian of the selling institution releases securities to “Clearing Member1 Pool A/c” only after receipt of pay order from clearing member1.

Step 2- Clearing Member1 gives delivery to CC/CH instruction to DP1 to debit his “own Clearing Member1 Pool A/c” and credit his “own Clearing Member1 Delivery A/c”. The transfer will take place on the “execution date” mentioned in the instruction. Delivery to CC institution is given as per final/net delivery obligation received by the Clearing Corporation/Clearing House. Delivery to CC instruction can be reversible or irreversible.

Step 3- Securities lie in the “own Clearing Member1 Delivery A/c” till settlement day. On settlement day (5th working day from trade day), securities lying in “Clearing Member1 Delivery A/c” are automatically flushed to the Clearing Corporation/Clearing House. No debit instruction in needed for this transfer. The deadline time for pay-in of securities to the Clearing Corporation/Clearing House may vary from one exchange to another.

Note: If excess securities are transferred to “Delivery A/c”, the old instruction can be cancelled and replaced by a new one before the NSDL deadline, provided the instruction was marked as reversible. If excess delivery is made to the CC/CH, the excess will automatically get credited to “Clearing Member Pool A/c” on pay-out.

Step 4- On settlement day (5th working day from trade day) securities are transferred from the Clearing Corporation/Clearing House to “Clearing Member2 Receipt A/c” with DP2. No credit instruction is needed because this transfer is automatic.

Step 5- Securities are transferred from “Clearing Member2 Receipt A/c” to “Clearing Member Pool A/c”. Receipt account of clearing member is purely a transit account for maintaining audit trail.

Step 6- Clearing Member2 gives a delivery instruction to DP2 to debit his “Pool A/c” and credit “Buying Institution A/c” with DP2. Custodian of buying institution gives corresponding receipt instruction to its own DP outfit i.e. DP2 to accept in buying institutions account securities transferred from “Clearing Member2 Pool A/c” through DP2.

Step 7- Securities are transferred to “Buying Client A/c” from “Clearing Member2 Pool A/c” with DP2.

Note: Funds are not handled by the NSDL. Clearing Member2 gives cheque directly to the Clearing Corporation Clearing House. Only after the cheque is cleared by clearing bank, the Clearing Corporation Clearing House allows credit of securities to clearing member2 and thereafter, communicates the match to the NSDL.
## Summary of Procedure

### Pay-in of Securities

<table>
<thead>
<tr>
<th>Step No.</th>
<th>Activity</th>
<th>Day</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Selling CM1 Fund A/c Dr. To Custodian Client Fund A/c Cr.</td>
<td>S.D-1</td>
<td>Cheque/Pay order.</td>
</tr>
<tr>
<td>1.</td>
<td>Selling Institution (BO) A/c Dr. To CM Pool A/c Cr.</td>
<td>ED = SD</td>
<td>Custodian of Institution-Delivery institution CM1-Receipt instruction or standing instruction</td>
</tr>
<tr>
<td>2.</td>
<td>CM1 Pool A/c Dr. To CM1 Delivery a/c Cr.</td>
<td>ED = SD</td>
<td>CM1 - Delivery to CC instruction</td>
</tr>
<tr>
<td>3.</td>
<td>Securities flushed from CM1 Delivery A/c To CC/CH</td>
<td>S.D</td>
<td>Automatic (No instruction required)</td>
</tr>
<tr>
<td></td>
<td>Clearing Bank A/c Dr. To Selling CM1 Fund A/c Cr.</td>
<td>S.D</td>
<td>Direct Credit.</td>
</tr>
</tbody>
</table>

### Pay-out of Securities

<table>
<thead>
<tr>
<th>Step No.</th>
<th>Activity</th>
<th>Day</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Buying CM2 Fund A/c Dr. To Clearing Bank A/c Cr.</td>
<td>SD</td>
<td>Debit from CMs Fund A/c</td>
</tr>
<tr>
<td>4.</td>
<td>CM2 Receipt A/c flushed with securities</td>
<td>SD</td>
<td>Automatic (No instruction Required)</td>
</tr>
<tr>
<td>5.</td>
<td>CM2 Receipt A/c Dr. To CM2 Pool A/c Cr.</td>
<td>SD</td>
<td>Automatic (No instruction Required)</td>
</tr>
<tr>
<td>6 &amp; 7.</td>
<td>CM2 Pool A/c Dr. To Buying Institution (BO) A/c Cr.</td>
<td>ED (On or after SD)</td>
<td>CM2-Delivery institution Custodian of Institution-Receipt instruction or standing instruction</td>
</tr>
<tr>
<td></td>
<td>Custodian Client Fund A/c Dr. To CM2 Fund A/c Cr.</td>
<td>S.D +1</td>
<td>Cheque/Pay order.</td>
</tr>
</tbody>
</table>

*CM (clearing member) should keep in mind their respective DP's deadline for giving instructions.

**ED** - Execution day, the day on which securities are transferred between accounts.

**SD** - Settlement day, the deadline time for pay in and pay out of securities on SD. It may vary from one exchange to another.

Relevant legal provisions applicable to dematerialised transactions are given in Bye-Law
9.6: **Transfer of Balances and Business Rules** and 12.2: **Market Trades**.

**Precautions**

1. For a transfer of securities to be effected from one account to another, details mentioned in the “delivery” and “receipt” instructions need to match. Investors need to be specially careful with respect to the “execution date” mentioned in the two forms. The transfer would be rejected if there were a mismatch in this regard, even if all other details in the two forms match.

2. Investors need to be careful with respect to the pay-in deadline. They need to take care of not only the NSDL deadline but also the deadline put forth by their Depository Participant (DP).

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Accounting Education for New Millennium

Dr. N.M. Khandelwal*

The Backlog:

Accounting educators have entered 21st Century with a backlog of certain issues of 20th Century. Environment of Accounting has changed basically and certain new challenges have also emerged. However, the response has been quite lukewarm, hesitant and halting. Accounting education is facing the danger of being left behind as irrelevant, if we still fail to read the writing on wall and act fast.

First pending issue carried forward from 20th Century is establishment of meaningful relationship between Universities and Statutory Professional Institutes of CAs, ICWAs and CSs. These Institutes should act like other statutory regulatory bodies in India in the field of medical, nursing, pharmacy, engineering and technical education and leave teaching and research in the hands of Universities. These bodies should not work like distance education centres. More important tasks for them are improvement of standard of education, training, continuing education, membership, enforcement of code of conduct etc.

Another pending issue is establishment of Schools of Accounting at select universities with separate Departments of Accounting, Auditing, Taxation etc. Remaining universities may be encouraged to establish separate Departments of Accounting with specialized bachelor and master's degrees in Accounting. Nomenclature of positions of teachers must be Professor/Associate Professor/Assistant Professor in Accounting, if there is a Department of Accounting and Professor/Associate Professor/Assistant Professor in Accounting, Taxation, Auditing etc as per the name of the department in case of Schools of Accounting. Standard of education, training, faculty qualifications, pay-scales, degree of autonomy, funding norms, accreditation etc. should be the privilege of Professional Statutory Bodies with in their own specialised area.

Dichotomy of Academics and Professionals should go. Those who practise must practise and those who teach must teach. But those who practise may also teach, like medical and engineering professions. Robert N. Anthony's agony expressed in an article published in HBR is related to the problem of this gulf between teaching and practice. Those who teach do not know practice and those who practise accounting do not know how to teach it. This has been the main reason responsible for slow development of accounting education and practice. This agony should be put to an end now.

Funding of Schools of Accounting and Departments of Accounting should be a shared responsibility of the UGC, Professional Institutes, State Governments, Industry and People.

* Professor, Faculty of Management Studies and Director, School of Business, MDS University Ajmer-305009. e-mail: nm_khandelwal@hotmail.com
interested in Accounting. International funding may also be tapped. Other professional requirements like eligibility, admission procedure, number of seats, fee norms, examination norms, as applicable to any other professional and technical course, must apply to Accounting also. Leading Accounting firms and corporates must liberally donate funds for the creation of chairs in Accounting at select Schools/Departments of Accounting. The colossal national wastage involved in distance education of CAs, ICWAs, CSs, where entry is easy but exit is tough, with 5 to 10% pass and about 90% failure, may be avoided through the proposed alternative system. The invisible cost in the form of psychological damage done to youth by avoidable failure will also be significant social invisible gain.

New Issues

The new challenge lies in globalization. Development of global accounting norms is the urgent need of the hour. Global business and development of international finance will be greatly facilitated by it. Second phase of W.T.O. reforms will be related to free global mobility of knowledge resources. We must seize this opportunity by developing global curriculum in Accounting. This requires an urgent research effort to have an international comparative study of Accounting. This brooks no delay now.

Accounting has been traditionally rooted in Law, Economics, Statistics and Finance. Now with revolution in Information Technology, it must be integrated with computers on the one hand and strategically linked to financial services on the other hand. Then the degree holders from Schools of Accounting will have a very high demand in global job market.

Accounting specialists have been found to lack in skills like communication and organizational behavior. Accounting professionals will require thorough training in both these areas. Statutory Auditors may do well without these two skills. But a Comptroller or Internal Auditor working in an organization or a Financial Service Professional interacting with people and organizations cannot be successful without a good grounding in communication and organizational behaviour. Working knowledge of functional areas of management will also be required in their case. Accounting specialists for global market must have working knowledge of International Economics, International Trade, International Finance, I.T., e-Commerce, e-Business also.

Traditional classification of Financial Accounting, Cost Accounting, Management Accounting, Taxation, Statistics is no more relevant due to the advent of computerized Management Information System, Decision Support System, Expert System etc. All these fields are to be integrated and linked to enviromental data to be useful as an aid to decision-making in organizations. The outmoded model of segmented Accounting teaching and learning based on numerical problem solutions, blackboard, tuition/coaching must be replaced by conceptual knowledge linked with computer software. Accounting education needs this basic change in its approach to teaching, learning and practice.

It is good that CA, ICWA and CS. Institutions have started some interaction now. Let this be extended to universities for the adoption of the proposed model of Accounting Education for New Millennium. All must shed their ego and work for a meaningful partnership in national interest.
Accounting Education and Research: Please Call Spade a Spade - A Viewpoint

Dr. B.S. Rajpurohit* and Dr. Ashok K. Bohra**

Business education and research has its roots in the age-old knowledge called 'Political-Economy,' which branched out, into two separate disciplines namely, 'Political Economy' and 'Economics'. Economics gained the status of a science and its applied part was named 'Applied Economics'. This along with the contributions of several other disciplines was recognised as 'Commerce,' about a century back.

It was the first practical attempt to integrate and institutionalise the relevant contributions from various fields of knowledge including Economics into a truly interdisciplinary amalgam. It helped in knowing more and better about: Business as a human activity and human behaviour in the conduct of business activities.¹

In India the Masters in Commerce was first offered by the Allahabad University in the year 1941. Since then up to 1970 the expansion in Commerce education was at a rate faster than the rate of expansion of university education as a whole.²

Commerce at a later stage grew into specialisations namely Accounting, Business Economics, Finance and Business Administration.

Accounting thus is an important ingredient of Commerce. Over a period of time its various branches have grown to satisfy the growing demand of business and the society--namely--Financial Accounting (Stewardship Accounting); Cost Accounting (Internal Accounting); Management Accounting (Decision Accounting); Auditing (Control-Internal and External); Financial Management (Management of Funds) and Taxation.

Accounting Education

Accounting education includes teaching and training in Accounting. The experience suggests that Accounting education has suffered from ad-hoc approach, remained fragmented, lacked co-ordination, practical applicability and updation.

Ad-hoc: Looking at the teaching and training programmes of Accounting at different levels, during different times, one finds hardly a thread of logic to justify the behaviour of the persons concerned. The decisions have been influenced by ad-hoc approach for satisfying the immediate need and sometimes these have been erratic.

Fragmented: The teaching and training have not been viewed in a total systematic approach. The branches of Accounting have not been dealt with in their proper sequence, keeping in view the de-fragmented approach.

Coordination: There is lack of co-ordination among various courses of Accounting taught

* Head, Department of Accounting, J.N. Vyas University, Jodhpur.

** Associate Professor, Department of Accounting, J.N. Vyas University, Jodhpur
at different levels, at the same institute, and also at institutions at different levels -- say at school, college and University level.

Practical Applicability: The teaching and training of Accounting has been devoid of its practical applicability. It is a common comment by employers and students that what is taught has hardly any relevance to the field of practical applicability. Each and every employee has to train himself/herself afresh on the job.

Update: There is natural resistance to change resulting into lack of updation of course content, undermining the capacity to adapt to the fast changing world. For example computer has changed the world scenario and made the teaching and training of Accounting more skill oriented and less knowledge oriented.

Accounting Research
The problems of Accounting education discussed above also affected Accounting research. Most of the researches in Accounting are applied in nature. However, there is hardly any application of the results. This is primarily because the researches are based on inadequate, incomplete and incorrect data are unplanned, lack co-ordination are repetitive and pertain to non-priority sectors.

Inadequate, Incomplete and Incorrect Data: Accounting information are basically internal in nature. These are hardly shared in full measure and whatever is shared with researchers is doubtful to be correct. This is a hard fact and most researchers come across this situation. Due to this limitation the researches in Accounting normally suffer from inadequate, incomplete and incorrect data base.

Unplanned: Most researches in Accounting are unplanned. There is no single agency at national level or at state level to chart-out a plan for research to be conducted based on national priority and produce research of useful applicability.

Lack Co-ordination: Researches in the field of Accounting lack co-ordination at all levels. Even the universities are not serious enough to co-ordinate the research programmes, keeping in view the regional demand.

Repetitive: Lack of co-ordination at all levels and lack of care and caution at operational level result in repetitive efforts on the same or similar problems. This leads to poor utilisation of scarce national resources. - physical and financial.

A Non-Priority Sector: Research as such, and Accounting research in particular, has been a non-priority sector for the government in India. This made research a non-priority sector for the researchers and even research institutions. A common researcher in Accounting faces serious hardship due to non-availability of required data. Accounting is the last choice for research in Commerce, as compared to other specialisations, such as Business Finance, Economics and Business Administration. The problem of research in Accounting normally is related to either application of some accounting tool or to understand the situation in a particular case.

The points raised above should be pondered upon at length at the meetings of the experts in the field and the authorities concerned to arrive at some solution. This is necessary to promote research and strengthen education of Accounting in country.

References
Accounting for Services: A Case Study of Saurashtra University

Dr. Pratapsinh Chauhan*

Universities, like business organizations, are not profit making organizations. Human resource development is the main goal of universities. But in their effort to achieve the goal, the universities are by and large constrained due to the problems like financial deficit, excessive students' pressure etc. Like other universities, Saurashtra University, Rajkot is facing the problem of deficit financial budgets and heavy pressure of students population since a long time.

The Saurashtra University was established in 1967. The University has 24 departments, 120 affiliated colleges and 2 recognized institutions. The University receives grants from the U.G.C., the Government of Gujarat and fee income from the students. The U.G.C. provides funds mainly for the development of the University by way of general grants as also specific schemes based finances. But the University is not able to manage to get the required funds and has been experiencing the problem of inadequacy of finances.

A university is governed and regulated by its Act and Statutes and accordingly the accounting system has to be developed. This is so with Saurashtra University. The University prepared accounting statements, at the end of the accounting period, to show its financial state of affairs. The broader heads of expenses consist of staff salaries and allowances, purchase of library books, equipment for laboratory and office, sports equipment, medical expenses for students and employees and examination expenses. The present deficit is approximately Rs. 2.60 crore, which is a clear indication of the seriousness of its financial problems. The financial health of the University being poor, it has become a cause of concern for the Government as also for the University administration. A question arises as to how this financial crisis can be overcome and what type of accounting practices should be used to reflect the true financial position of the University.

Methodology

The researcher had gone through the Saurashtra University budgets and the budgeting process and had personal discussions with the chief Executive, Chief Accountant and Auditor, Development Officer and other concerned staff of the University. A comprehensive budgeting exercise is done every year in the University, which is based on the experience and difficulties realized over several past years. All these were studied thoroughly by the researcher for the

* Associate Professor, Department of Business Management, Saurashtra University, Rajkot-360 005
purpose of obtaining information. The annual financial estimates also known as 'Budgets' presented under different heads the estimates of receipts and expenditure of the University in respect of the financial year are prepared before the commencement of every year. Further the budget specifies the objects for which the funds are to be used and the limits up to which expenditure may be legally incurred during the course of the financial year. Its objective is to exercise financial control over approved items of income and expenditure. In other words it is an instrument of financial control.

Objectives of Study

The study was undertaken to achieve the following objectives:

1. To understand the Accounting Practices in the University with special reference to budgets and budgeting.
2. To identify the sources of funds (Revenue and Capital)
3. To explore the possibility of demanding more funds from the Government of Gujarat and the U.G.C.
4. To suggest measures to reduce financial deficit.
5. To identify steps to control the non-plan expenditure of the University.
6. To make the budgeting exercise more meaningful and performance oriented.

Major Findings

On the basis of the comprehensive analytical study the researcher could arrive at the following major findings:

1. Modality and uses of budgets: Tentative estimates under different heads provide the approach to budgets and budgeting. A discretionary incremental exercise is being undertaken for preparing budget estimates. Budgeting does not have any relationship with the grants provided or the funds being used. It is not meaningful as a tool of measuring performance. The University Grant Commission has devised certain model performa for University budgets. But the University does not include the details regarding assets, liabilities, debts, deposits and advances in its budget.

2. The University has not tried to mobilize extra funds from the society.

3. Good financial management requires raising the income and reducing and controlling the costs, in order to improve the financial position of the University. But no amount of serious efforts were made by the University regarding raising funds through innovative methods and controlling superfluous and unproductive costs.

4. Saurashtra University prepares its budget estimates for a financial year without having any clear idea of the U.G.C. grants, State Government grants and donations from society. Very often the figures shown in the budget do not have any relevance to the actuals. If the details of the sources and the amount of grants, donations and other receipts available are furnished, the budget estimates of the University can be made more scientific and realistic.
5. Another area where difficulties are experienced by the University is that in meeting the overhead charges of non-sanctioned positions filled in hurriedly and the newly created departments. Expenditure on such positions and other related establishment expenses increased the unplanned expenditure, eventually leading to higher financial deficit.

6. It has been found that the budget proposals of the University are approved very late, sometimes in the middle of the plan period. The University takes follow up action at the end of the plan period and sometimes much later than the plan period. Consequently, the University is not in a position to avail full assistance sanctioned by the U.G.C. and the sanctioned grants are allowed to lapse.

7. At present there are two different systems prevailing in the State of Gujarat in respect of the grants in aid from the State Government to the Universities. For the payment of deficit grants there are no fixed norms. The State Government sends a team of officers from the Education and the Finance Departments. This team takes into consideration the progress of expenditure of the University during last year on the basis of discussions with the officers of the University and the amount of grant is finalized. Presently the average actual deficit grant, as percentage of budget estimates, is around 70.77% only. The State Government has not sanctioned full deficit as grants and as such the practice results in ever-increasing deficit in subsequent years.

8. There are some problems which arise out of internal management. These practices are though administrative in nature, they affect finances indirectly. The University Act, Statutes, Ordinances etc contain rules and guidelines for the maintenance of accounts and preparation of budget etc. However, in the absence of a comprehensive Accounting Code, the University finds it difficult to streamline the procedure for incurring expenditure and making payment of bills.

**Suggestions for Improvement**

In the backdrop of the aforementioned findings of the study, the researcher after due consideration offers certain suggestions which may be expected to go a long way in ensuring better financial health of the University. These are:

1. **Budgeting should be a continuous process.** Budgets should be prepared first at lower levels. This should be followed up by preparing a Master Budget for the University through budget settlement process. In addition to this, a feedback mechanism should be built in the system of budgeting. While preparing the budget, a mixed concept viz. Performance Budgeting and Zero Based Budgeting should be used for verifying the budget standards. These two concepts of budgeting should be used for both, the controllable and the non-controllable expenses.

2. **All the expenses should be broadly classified into two broader categories,** viz. a) for which grants are available, and b) for which grants are not presently available, so that systematic efforts may be made to demand grants on genuine grounds and exercise judiciously discretion to reduce certain type of expenditure.

3. The miscellaneous expenses shown are a very big amount under the head. Their detailed break-up should be indicated. As per the discussions a major share under the head is in the form of bank interest and other charges on account of huge amount of overdraft, and it is not immediately controllable.
4. The University though has received a small amount in the form of endowment funds. But whatever amount is available to the University should be shown as a source of recurring income separately.

5. Budgets of Self-Financing Courses should be also included in the Master Budget of the University.

6. There is a very good scope to increase income by way of fee revision. Presently the University is getting around 22% of its operating expenses by way of fee. This is much less than the cost incurred by the University and the Government.

7. There is again a very good scope of getting funds by way of donations and endowments from the society. The U.G.C. also suggests that this source should be used as a supplementary device for strengthening the financial position by the universities. In this regard, efforts may be made to bring Chairs from banking and financial institutions. Donations may be invited for constructing certain buildings and developing infrastructure facilities.

8. Consultancy work should be promoted to generate income. The University departments can do a lot in this field.

9. Scholarships and awards from various research institutions may be invited.

10. The Government has sanctioned a revolving fund of Rs. 1,00,000. This is to be used when some sanctioned grant is not received in time. This fund is required to be raised from Rs. 1,00,000 to Rs. 10,00,000.

11. There are a large number of equipment lying unused. The University may think of leasing out them, so that unnecessary fixed expenses may be curtailed and revenue by way of lease rentals may become a source of funds.

12. The reports of various activities should be submitted to the controlling bodies, for timely examination and avoiding unnecessary expenses. Travelling expenses, adhoc work, fixed pay employees and daily wage workers, telephone and postage expenses may be the illustrations of this type.

To conclude it may be stated that if efforts are directed towards considering actively the aforementioned suggestions, the University will very soon come out of the financial stress and at the same time would serve the society in a better way. It may be that such a consideration may require several types of exercises by way of changing rules and procedures and amending certain Ordinances, but it has to be undertaken for financial improvement.

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Report on Technical Sessions at the 23rd Annual Conference of IAA

The 23rd Annual Conference of IAA was held at Ajmer on 21st and 22nd May 2000 under the joint auspices of Maharshi Dayanand Saraswati University, Ajmer and Ajmer Branch of IAA. The venue of the Conference was Brihaspati Bhawan, M.D.S. University, Ajmer.

Technical Session I: Infrastructure Financing and Accounting

Rapporteurs: Dr. Man Chand Jain Khandela, Jaipur and Dr. (Mrs.) Kamlesh Pritwani, Ajmer

The technical session on Infrastructure Financing and Accounting was chaired by Professor Om Prakash of Jaipur, Keynote speaker at the session was Shri Anjan Banerjee, Vice-President ICICI Ltd., Bangalore. The session started with the opening remarks by the Chairman. In his keynote speech Shri Banerjee covered the three areas of infrastructure, viz., power, transportation and communication. After giving details about the present position in the three areas he projected the imbalances prevailing in India. He pointed out that if India is to achieve the target of 8 per cent rate of growth, it should invest at least 80 billion US dollars in these areas. He was of the view that, since it was not possible to provide this huge amount from internal sources, we have to depend upon foreign investment in one way or the other.

After the presentation of Shri Banerjee other papers were presented. Professor G. Shrinivasan from NITIE, Bombay in his paper ‘Infrastructure Financing for Development- A Case Study’ described in detail the specific features, limitations and forms of infrastructure financing in India. A paper detailing the activities of the RIICO was presented by Dr. R.K. Motwani from Falna. It dealt with the capital structure, persons employed, number of industrial areas developed and different types of assistance provided by the RIICO. He was of the view that the subsidy and finance at concessional rate of interest should be stopped. Dr. V.K. Vasal from Delhi presented a paper on ‘Accounting for Electric Power Industry’, Giving details of the functioning and the difficulties faced by the State Electricity Boards he expressed the view that the Boards were doing reasonably well in the area of accounting and the system adopted was reliable. He suggested that the rates of power tariff should be raised to recover the cost and raise additional resources required for development of power sector. Dr. Kamlesh Pritwani of Ajmer in her paper ‘Problems and Prospects of Indian Railways’ suggested partial privatisation of railways and reduction in the variety of concessions provided by it. She emphasised on cutting the social costs to the extent possible and adoption of customer oriented approach in the service provided.

After presentation of papers the Chairman explained the concept of infrastructure and gave very interesting details about foreign investment in infrastructure in India and some other
countries. He was of the view that in a sensitive area like infrastructure 100 per cent foreign investment should not be permitted by the government.

The second half of the session was chaired by Professor K.R. Sharma. It was devoted to discussion on certain specific issues arising out of the papers presented at the session. This created lot of enthusiasm among the participants and a large number of persons participated by expressing views, making observations and giving suggestions regarding financing, accounting and management aspects of infrastructure.

The session ended with a vote of thanks.

**Technical Session II-Activity Based Costing and Management**

**Rapporteurs:** Dr. Lalit Gupta of Jodhpur and Dr. B.S. Rajpurohit of Jodhpur.

The technical session on 'Activity Based Costing and Management' was jointly chaired by Professor N.M. Khandelwal of Ajmer and Professor B. Banerjee of Calcutta. Dr. Banerjee presented a case study based on a survey conducted by him of a private sector enterprise and also shared his experiences of Calcutta University. He mentioned that knowledge of ABC was still limited to academic circles and has not become popular among the practitioners. The issues related with ABC arise from the allocation of overheads under the traditional costing system. The three areas of application of ABC could be Unit Costing, Batch Costing and Sustainable Product Costing. He pointed out the areas where ABC could be useful and also narrated precautions necessary in the installation of this technique in a manufacturing organisation. He also related AB Costing with AB Management.

Before starting the presentation of papers Prof. Khandelwal raised certain issues which he expected the participants to deliberate upon. More than twenty papers were received for presentation at the session. The series of presentations was started by Professor Bhairav H. Desai of Ahmedabad. In his first paper on 'Application of ABC in Banks' Prof. Desai discussed the aspects of profit and investment centres, profitability and profit planning involved. In the second paper Prof. Desai highlighted the situation signifying the utility of ABC in managerial decisions under certain assumptions, taking a case of three products. A point of debate was how the supremacy of ABC can be accepted if the total cost remains the same. Dr. Mahabaleshwar Bhatt tried to fit in ABC in cost accounting and financial accounting systems, narrated how to reduce the number of accounts at three levels of activity and its incorporation with the double entry system. Dr. D. Rajgopalan and Dr. Ganesan presented ABC as an innovative tool for cost reduction, when a business is shifted from a push-based system to a pull-based system. They discussed four types of activities in this context and revealed that ABC helped in the re-engineering process of companies with equal utility in case of all kinds of overheads. Dr. H.S. Shukla of Rajkot presented a comparison of traditional costing with ABC, its objectives in terms of both theoretical structure and results of implementation. Dr. P. Arora in his paper entitled 'Conceptual Aspects of ABC - an Insight' submitted an account of the development of the concept and objectives of costing. He also presented the problems and precautions to be observed while deciding the number of cost drivers, necessity of trade off between accuracy of information and cost of generating the same, and the inherent problem of simultaneity in the features of cost drivers. Mr. N.V. Suchak presented ABC as a tool for strategic
cost management with the help of a case narrated to him by a firm producing films. According to him ABC was also useful in service and non-profit organisations, as it did not affect the utility of other costing methods. Dr. Sanjeev Gupta discussed the drawbacks of the traditional methods of cost allocation and how ABC helped in pricing and budgeting. Mr. Sardar of Ahmedabad discussed the concept of ABC vis. a vis. the objectives of a firm and its role in pricing. He attempted to develop a format for reconciliation among traditional cost accounting, financial accounting and ABC. Dr. R.S. Agrawal of Beawar contributed a paper on ABC v/s Traditional Costing. Mr. Gulab Singh's paper focussed on the steps for developing ABC and method of implementing the same. Dr. M.L. Agrawal of Ajmer highlighted the rationale of ABC, its objectives, managerial benefits and procedure of implementation for improving the performance and cutting the costs. Dr. Jatin Pancholi and Mr. Patil presented the paper 'ABC-A Strategic Perspective' and covered its four dimensions influencing the performance of executives. Dr. G.L. Malodia of Jodhpur in his paper distributed the description of ABC into eight parts, compared the two-tier allocation process under traditional costing with ABC and explained the superiority of ABC with the help of certain diagrams. He also explained how it was different from decision relevant approach and pleaded that it was easy to apply it in service sector as well. Dr. R.S. Rajpurohit and Dr. G.L. Dave of Jodhpur in their joint paper on 'Activity Based Costing-an Overview' presented the conceptual aspects of ABC, illustrated the technique, established its significance over the traditional costing system and raised some burning issues. Some other papers received but not presented were 'AB Cost Accounting: A Study on ONGC Project site' by Prof. Sujit Sikidar and Dr. K. Mukherjee of Guwahati; 'Implementation of AB Costing System in Indian Context' by Mr. Jayesh G. Poojara of Anand.; 'Activity Based Costing' by Mr. Manish M. Chudasama of Rajkot; 'AB Costing and Management- An Overview' by Kamlesh M. Jain of Rajkot and 'O.H. Absorption under ABC Approach' by Dr. N.S. Rao of Udaipur. The proceedings of the session were made lively and highly enlightening by comments offered by Prof. B. Banerjee, Prof. B.M.L. Nigam, Prof. N.M. Khandelwal, Dr. P. Arora and others, on issues arising out of the papers presented, from time to time. Prof. Banerjee highlighted the environmental differences of 'hire and fire system' as distinct from what is prevailing in the developing countries like India. Prof. Nigam cautioned against mixing up AB Costing with Zero Base Budgeting, as this was part of the allocation process and provided much better information to management.

Presentation of papers was followed up by discussions, comments and observations. Professor B.M.L. Nigam of Delhi pointed out the dichotomy of the theme i.e., the AB Costing and AB Cost Management and expressed his concern that the latter part was missing in the deliberations. Prof. K. Eresi of Bangalore felt that for preparing good quality papers emphasis should be given to empirical evidence. To achieve this he stressed on the need for encouraging small projects and mentioned some of the areas which could be taken up for research projects by teachers as well as students.

At the end Prof. N.M. Khandelwal summarized the proceedings mentioning some of the issues that need attention for research in this area, implementation and adoption of ABC as a complete costing method, its reporting implications like valuation of inventory, ROI, segment reporting, internal reporting, social reporting etc., He also expressed the view that there was a need for making ABC a part of the courses of study at degree and post graduate level. Prof. B. Banerjee in his concluding remarks explained the relationship of AB Costing, AB Management
and AB Budgeting and pointed out the pressures of internal environment. He pleaded for further research in the area, so that ABC could be applied and refinement may be made in the technique, to make it suitable to the conditions of developing countries, its integration with traditional costing and strategic cost management.

The session ended with a vote of thanks.

**Seminar on Accounting Education and Research**

**Rapporteurs:** Dr. G.L. Malodia of Jodhpur and Dr. S.K. Verma of Ajmer

The seminar on 'Accounting Education and Research', was chaired by Prof. B.M.L. Nigam of Delhi. A keynote address on 'e-Commerce' was presented by Mr. Rajat Mathur, General Manager e-Commerce Solutions, Wipro Ltd. The keynote address covered the entire range of aspects of e-Commerce, such as concept, scope, necessity of creating community portals, standard for data transfer, concept of digital signatures, encryption process, security of text, notion of digital market place, measures for cost reduction, key issues, current industry trends as regards the popularity of e-Commerce and evaluation of net economy. Some very interesting quarries and issues were raised by the participants and a very useful discussion followed.

The keynote address was followed by presentation of papers. Professor K.R. Sharma presented a paper on 'Education of Professional Accountants in the SAARC Countries'. The paper was based on the findings of a major research project conducted by him on behalf of the ICSSR. It stressed upon the need for coordinating the efforts made by various countries and professional bodies of accountants for creating infrastructure for training and education of professional accountants. Prof. N.M. Khandelwal in his paper on Accounting Education concentrated on the backlog and constraints in Accounting education that could not be resolved despite efforts till the end of the present century. He suggested establishment of Schools of Accounting and better coordination between the universities and the bodies of professional accountants. Dr. K.S. Seshaih stressed upon the behavioural and semantic aspects of reporting. Dr. B.S. Rajpurohit and Dr. Ashok Bohra of Jodhpur in their joint paper entitled 'Accounting Education and Research-Call Spade a Spade' expressed the view that accounting education and research in india did not produce satisfactory results due to a variety of reasons. These issues should be discussed by the academics and a solution should be found. Dr. S.K. Mangal of Jaipur emphasised on integration of Activity Based Costing and e Commerce for better results. Dr. R.T. Vachhani in his paper on 'Emerging Role of Information Technology in the Global Business Environment' emphasised on a separate decision model for each country. Dr. A.K. Sivnarain explained the concept of tangible assets, intangible assets and brand worth and stressed on the need for research in these areas. Dr. Krishan Kumar and A.B. Thapliyal in their joint paper entitled 'Demand for Professional Approach in Accounting Education in Changing Scenario' expressed that universities should have a strong linkage with professional institutions to meet the increasing demand of professional accountants other than auditors. Dr. Subodh Kumar and Dr. S.K. Sharma expressed the view that HR techniques should be given an important place in accounting education. Dr. Anenta Raisinghani of Ajmer in her paper on 'e Commerce' established the importance of e Commerce in the changing times. Dr. S.K. Verma's paper emphasised on the need for coordination between universities and employers and suggested that Commerce courses should be made more job-oriented. Dr. Guru Dutt of Pilani, Dr. P.N. Udayachandra
and Dr. H.V. Shankaranarayana, Dr. Dilip Prasad Saha and Dr. R.N. Vadher also presented papers on Accounting education at the session.

After presentation of papers some time was provided for discussion on the issues raised by paper writers. Prof. D. Prabakar Rao of Vizakhapatnam mentioned that there was an earnest need for introducing computer education at graduate and post-graduate level as a part of Commerce education. Dr. Lalit Gupta of Jodhpur suggested that IAA should look into the researches in this area and forward a gist of findings to the committees of courses of various universities, for incorporating these ideas in their courses. Prof. Nageshwar Rao of Ujjain expressed his concern about the difficulties faced by Management students in comprehending and using Accounting information for decision making. He felt that there was a strong need for giving proper orientation to Accounting education for such students.

After discussions the Chairman summarised the proceedings of the session, and highlighted important issues and problems of Accounting education. He advised the participants to ponder over the issues and find some workable solution.

The session ended with a vote of thanks.
Forthcoming Conferences

Theme - Globalisation of Business and Trade : Implications for Accounting Department.
Paper to be submitted by : May 15, 2000
Contact - Professor Ali Peyvandi or Professor Benjamin Tai, Asia Pacific Conference on
International Accounting Issues.
The Sid Craig School of Business California State University, Fresno
5245 North Backer Avenue, Fresno, California - 93740-0007, USA
E-mail - http://www.craig.csufresno.edn/dprtmt/conasia.htm.
For downloading conference registration and hotel reservation forms.

Fifth International Accounting Conference -
Indian Accounting Association Research Foundation
Venue : Crystal Hall, Taj Bengal, Calcutta January 6-7, 2001
Registration by : December 26, 2000
Contact : Professor B.Banerjee, Secretary, IAA Research Foundation, 164/78, Lake
Gardens, Flat C-7, Calcutta-700 045
E mail : iaarf@Cal3.vsnl.net.in

IAA Announcements

IAA Annual Conference

The XXIV Annual Conference of IAA shall be organised on 28th-29th Jan., 2001 at Tirupathi
(Andhra Pradesh) and shall be hosted by Sri Venkateswara University, Tirupathi.

Conference Secretary :
Prof. K. Seshiaiah
Head, Deptt. of Commerce
Sri Venkateshwara University, TIRUPATHI (AP)
Phone : 08574-22905
Topics for deliberation at the Conference are:
1. Economic Value Added
2. Segment Reporting
3. Accounting Education in New Millennium
Annual General Meeting
A meeting of IAA General House will be held at the Venue of 24th Annual Conference, Tirupathi with Prof. K. Eresi in the Chair on Monday, the 29th January 2001 at 4.00 p.m. to transact the following agenda.

1. Consideration of the minutes of AGM held at Ajmer
2. Consideration of the Accounts of the Conference
4. Consideration of proposals for holding the 25th Conference of IAA
5. Election of Office bearers/Executive Members as per the Constitution
6. Any other item with the permission of the Chair.

All the members are requested to attend the meeting.
General Secretary, Indian Accounting Association, June 6, 2000, Visakhapatnam

Special General Meeting
A special meeting of IAA General House will be held at the Venue of 24th Annual Conference, Tirupathi on 28th January 2001 at 11 a.m. to transact the following agenda.

1. Consideration of the proposal of Tirupathi Branch to Construct Permanent Building/Guest House in the name of IAA
2. Any other item with the permission of the Chair.

All the members are requested to attend the meeting to deliberate on the above issues.
General Secretary, Indian Accounting Association, June 6, 2000, Visakhapatnam

Proposals for IAA Young Researcher Award-2000
Indian Accounting Association invites research proposals from IAA life members of not more than 35 years of age as on 31.12.2000 on research works done during the last five years in the area of Accounting, for the consideration of IAA Young Researcher Award Committee. The proposals may be submitted to the undersigned on or before 1st Jan. 2001

General Secretary, Indian Accounting Association
2- Shanmukha Apartments, Andhra University Road, Visakhapatnam-530017,
Phone: 0891-755538; email: dprabhakararao@eth.net

IAA Website

For making you research material (after blind review) available on the website, pleas contact:

Dr. N.M. Singhvi
Vice President, Indian Accounting Association
B-3, Mayur Colony, Ajmer - 305008
Phone: 91-145-423094; Email: nmsinghvi@usa.net
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Indian Accounting Association, an organisation of academicians and professionals from business, industry and government is basically a forum of persons actively interested in the advancement and dissemination of Accounting knowledge and who believe that research on a continuing basis is imperative for bridging the gap between theory and practice of Accounting. It is thus an academic body which aims at raising the exalted status of Accounting, both as a discipline and as a precious tool of managerial decision making. Membership of the Association is open to academics and professionals who are willing to assist in achieving the objectives of the Association.

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Printed in India by Dr. D. Prabhakar Rao at Agrawal Printers Pvt. Ltd., 23-B, Shivaji Nagar, Udaipur-313 001
Tel. : 0294-484242, 484243 and published by him on behalf of the Indian Accounting Association, Udaipur-313 001.