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Sources of Job Stress Among the Employees of Service Sector in Kolkata and Ways to Mitigate Stress—An Empirical Study

J. K. Das and Satarupa Datta***

ABSTRACT : The present paper attempts to identify the sources of job stress among the employees of different service sector units in Kolkata and suggest ways to mitigate stress. Six service sector units are chosen for the study viz. banking, insurance, transport, communication, health and education. The study is based on mainly the information available through a structured questionnaire, formed with the help of psychometric instruments, administered to 340 employees of different job categories in different service sector units by stratified sampling technique. The different issues considered in this paper are: general profile of respondents, sources of stress at individual, group, organizational and extra-organizational level and mitigation of stress among the respondents.

KEY WORDS : *Personality Traits, Role Stresses, Organizational Culture and Climate, Coping Strategies.*

1. INTRODUCTION

The extent to which an employee experiences stress depends on the personal characteristics of the individual as well as his cognitive appraisal of the job factors. It is found that two employees subject to similar work conditions experience different levels of stress. Individual's

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response to work pressures, is therefore, influenced to a large extent by his inherent traits. The psychological make up of the employee as well as his behavioural patterns have been found to develop and promote stress. Stress originates when an employee tries to fulfil the requirements of a job role but fails to do so due to some inadequacies and thus giving rise to several role stresses. Several factors related to organization structure, climate and culture also cause stress among the employees.

Distress is caused because of the demands of the modern life and anxiety to cope with them. This results in feelings of inadequacy, anxiety, nervousness, loss etc. This type of stress is harmful and has caused more havoc in the life of the executives. It is this stress that justifies the saying, "Ulcer is the surest sign of executive success". Target mindedness and the eleventh hour rush or continuous overwork cause hyper stress. But eustress is not harmful, being occasional and fleeting. It is caused due to sudden overjoy and it is a state of happiness.

The role of service sector is growing in the Indian economy. It is the role of the customer care and front-end executives to keep the customers happy. Service sector requires the employees to be with their best behaviour at all times - smiling and exuding warmth and friendliness. The front-end employees present the organization to the customers and it is believed that a pleasant and friendly employee helps to promote customers' loyalty and perception of service quality. Customer care employees are supposed to control their feelings and portray a cheerful disposition at all times. Even when an angry customer is screaming at the front-end employee, he has to keep his emotions under control and behave in a pleasant manner.

The present study is being undertaken in the service sector to analyze the causes of stress at individual, group, organizational and extra-organizational level and thus to provide remedial guidelines to make effective use of the strategies and interventions. This will have impact on employees' performance and productivity. In the present day competitive global market, the study will have tremendous social and economic significance.

2. LITERATURE REVIEW

A brief literature survey to the relevant research works done in India are as follows :

According to French and Caplan (1972) poor co-worker relationships are associated with low trust, supportiveness and interest or willingness to listen. In a study Friedman and Rosenman (1974) found that "Type-A Behavioural Patterns" are the direct sources of occupational stress. They are aggressive, striving, highly competitive, highly hostile, hyper alertness and rapid pace in themselves cause stress and are prone to coronary heart disease. They may be resentful and suspicious of others and may easily be angered by people in their environment. They tend to ignore the feelings of others in their pursuit to achieve more and more. Ivancevich and Donnelly (1975) noted in their study that employees in flat organization reported less job stress and job satisfaction. Endler (1975, 1980) in an interactional model of anxiety defined stress as a situational variable, the perception of which is influenced by the individual's predisposition to react to stress

with increased anxiety. Thus, the perception of stress in turn increases the level of anxiety of the concerned individual. According to Johnson and Sarason (1979), change is one of the primary causes of stress, depending upon how it is perceived and organizational stress can be very stressful because of the feeling of insecurity it evokes. Speilberger (1979) while indicating the relationship of anxiety to stress noted that in a transaction between person and environment, stressors are linked to anxiety reactions by perception of threat. Payne (1980) studied that the quality of interpersonal relationship at work plays a vital role in determining employees' job behaviour and job strains and is consistently linked with job stress. Ivancevich and Matteson (1980) observed personal space or territory as another factor of organizational climate to cause stress to its employees. Organizational territory is defined as the personal space or area of activities within which an employee works. After theoretical speculation and on the basis of statistical analysis, Pareek (1981) identified the following ten situations of role stress: Inter-role distance, role stagnation, role expectation conflict, role erosion, role overload, role isolation, personal inadequacy, self-role distance, role ambiguity and resource inadequacy. Maslach and Jackson (1981) found that the medical personnel having more contact with patients, report high level of emotional exhaustion. According to Ketz de Vries (1984), there are at least three types of interpersonal relationships like relationship with co-workers, relationship with work groups and relationship with supervisors or superiors. Hence, social support from co-workers, work groups and supervisors reduces the level of job stress and consequent strain of the employees. Jick (1985) found that with organizations declining, especially in relation to downsizing and budget cut, five stressors emerge like feeling of job insecurity, work overload because of unrealistic deadlines, underutilization of employees skills, promotional obstacles and intra and inter group competitions. Matteson and Ivancevich (1987) observed that managers engaged in power games and political alliances can place stressful expectations and demands on subordinates. Srivastava and Singh (1988) in their study on a sample of industrial employees found that employees adopting approach coping strategies experienced comparatively more stress but maintained better mental health. It has been revealed from the study that the employees who perceived job stress resulted from external environment and adopted approach mode of coping, maintained better mental health compared to those who attributed stress to internal factors (personal characteristics). Batlivala (1990) conducted a study to compare the stressors experienced by the Indian executive at the organizational level and at the personal level with his American counterpart. Srivastava (1990) found in a study that inadequate organizational climate was positively correlated with the symptoms of mental ill-health among the executives. Pestonjee (1992) has suggested some specific skills and coping strategies which could be adopted by the executives to deal with different types of role stress. Srivastava and Krishna (1992) studied that employees with external locus of control feel helpless, are more alienated from work setting and less involved in their job. Thus they experience higher degree of occupational stress and lower job satisfaction. Gopal (2005) in an article illustrated the factors that result in stress among women with the introduction of MNC culture and presented the measures that are to be implemented to combat stress. Chirayath (2006) studied the relationship between personality types and stress management/stress resistance ability and the ways to cope with stressful situations among the employees of the Projects and Maintenance Department of BHEL. Seth and Agarwal (2006) identified the various causes of techno-stress among the future computer professionals and the strategies adopted by them to cope with and manage them effec-

tively. According to them, like the two sides of a coin, while computers have provided many facilities and comforts to various facets of human life on one side, on the other, it is giving rise to a number of computer-related problems. One such problem is techno stress- the stress that comes from long hours of work on the computer. Panchanatham and Pragadeeswaran (2006) conducted a survey on the executives working in co-operatives and large-scale public sector organizations to explore the relationship between yoga practices and quality of life. They observed that the employees of large-scale organizations practicing yoga had better quality of life than their counterparts. Moreover, the study revealed that the quality of life decreased when the age increased for the non-yoga practitioners, whereas the quality of life could be maintained by the yoga practitioners. Bhatia and Bhatia (2007) observed stress as a costly business affair that affects two aspects-employee's health and organization's profit. They concluded that as the health does not allow the body to function normally, it will lead to increased absenteeism, late coming and short leaves in the organization, which directly affect the organization's growth and profit. Raghuvanshi (2010) has given some effective tips to relieve stress at work. Menon (2010) conducted a study to measure job stress among the employees of selected banks in Mumbai. Saravanan (2010) investigated the problems faced by women workers and their opinion on the working environment in hosiery units at Tiruppur, Tamil Nadu.

3. OBJECTIVE AND METHODOLOGY

The main objective of the current study is to ascertain the various factors causing stress at individual level, group level, organizational level and extra- organizational level among the employees in service sector and evaluate strategies to mitigate stress.

The present study is empirical in nature. The study examines the factors causing stress in selected service sector units viz. banking, insurance, transport, communication, health, education, etc. The study is based on mainly the information available through a structured questionnaire administered among 340 employees from chosen service sector units and interviewed by using quota in stratified sampling technique in Kolkata. Selected employees in each service sector unit belong to different functional areas like accounting and finance, marketing, human resource, systems etc. Moreover, available information on this context published in different journals, books, magazines, dailies and websites is taken into consideration for the study as secondary source. In order to collect primary information from the employees, the questionnaire was formed with the help of psychometric instruments like Occupational Stress Index (Srivastava and Singh, 1981) and Job Anxiety Scale (Srivastava, 1985). In the questionnaire different variables and under each variable several traits were considered. The period of study covers 2008-09.

The statistical analysis of data is done through SPSS package. For qualitative analysis of data Likert's Summated Scale is adopted.

4. RESEARCH HYPOTHESES

More specifically, the following hypotheses have been considered in the present paper :

- (A) Employees possessing weak personality characteristics experience high level of stress.
- (B) Role stresses give rise to considerable amount of stress.
- (C) Lack of social support and interpersonal conflicts existing in the groups give rise to stress.
- (D) Limited opportunities for learning and growth causes stress among the employees.
- (E) Lack of performance feedback give rise to frustration and stress among the employees.
- (F) Employees suffer from anxiety apprehending transfer to a location far from their residence.
- (G) Employees working under time pressure experience high level of stress to meet a deadline.

5. DATA ANALYSIS AND FINDINGS

In this section data have been analyzed from the responses received by administering questionnaire to 340 employees of different job categories working in the service sector in Kolkata. The section contains general profile of respondents, sources of stress at individual, group, organizational and extra-organizational level and mitigation of stress among the respondents.

5.1. General Profile of Respondents

Distribution of 340 respondents from different sectors are: Banking-80 (23.53%), Insurance-50 (14.71%), Transport-60 (17.65%), Education-60 (17.65%), Communication-60 (17.65%) and Health-30 (8.81%). They belong to three types of organizations: public, private and foreign. 61.5% of the respondents belong to the public sector, 25.6% are from private sector and 12.9% belong to foreign organizations.

340 respondents are interviewed comprising of 204(60%) male and 136 (40%) female. They belong to the age groups varying widely between 20 to 60 years. 20.3% of the respondents belong to the age group 20 - 29 years, 25.9% fall in the age group 30 -39 years, age of 28.5% respondents lie between 40-49 years, 25.3% belong to the age group 50- 60 years. 27.4% respondents are unmarried and 72.6% are married of which 12.6% have no child, 55.9% have one child, 29.5% have two children, 1.6% have three children whereas only 0.4 % have four children. Of the married respondents 65.6% are male and rest are female; and unmarried respondents comprising of 45.2% male and 54.2% female.

Regarding educational qualification of the respondents, it is found that 57.9% are graduates and 42.1% are post-graduates or having equivalent professional degrees. It is revealed that 27.0% of the respondents have their monthly salary between Rs.5,000 -Rs.10,000, monthly earnings of 28.8% of the respondents fall within Rs.10,001- Rs.15,000, 22.4% of the respondents earn

Rs.15,001-20,000 per month, 11.5% of the respondents fall within Rs.20,001- Rs.25,000, only 3.5% of the respondents earn Rs. 25001- Rs.30000 per month and monthly earning of 6.8 % of the respondents are above Rs. 30000. Working experience of 36.7% respondents is less than 5 years, 9.8% in the range of 5-10 years of service, 8.3% fall within 11-15 years of service, 14.8 % are working for 16-20 years, 12.1% fall within 21-25 years of service, 11.5% of the respondents are working for 26-30 years, 4.4% of the respondents are working for 31-35 years and 2.4% of the respondents fall within 36-40 years of service.

5.2. Sources of Stress among the Respondents

5.2.1. Factors Causing Stress at Individual Level

At individual level, stress originates from two sources :

5.2.1.1. Personality Traits of an Individual

The inherent personal qualities of an individual have been found to give rise to stress. It has been observed that two employees respond differently if exposed to a particular situation. This difference can be attributed to the difference in personalities.

Employees having internal locus of control believe that they control their own destiny while those with external locus of control believe that outside forces like luck or supernatural power controls their lives. It is also revealed from Table 1 that 48.82% of the respondents possessed internal locus of control. It is generally known that people with internal locus of control are less influenced by external factor like luck and thus, they experience lower level of stress. Thus hypothesis (A) has been established.

Table 1: Frequency, Mean and S.D. of the Important Attributes under the Personality Characteristics of the Respondents

Attributes	Frequency (%)					Mean	S.D.
	Score						
	1	2	3	4	5		
Tolerance	11 (3.23)	31 (9.11)	97 (28.52)	94 (27.64)	107 (31.47)	3.75	1.094
Patience	23 (6.74)	57 (16.76)	78 (22.94)	67 (19.70)	115 (33.82)	3.57	1.291
Flexibility	18 (5.29)	21 (6.17)	86 (25.29)	46 (13.52)	169 (49.70)	3.96	1.215
Anxiety level	27 (7.94)	32 (9.41)	70 (20.58)	36 (10.58)	175 (51.47)	3.88	1.343

Intra-psychic conflicts	16 (4.70)	34 (10.00)	60 (17.64)	65 (19.11)	165 (48.52)	3.97	1.220
Locus of control	127 (37.35)	39 (11.47)	118 (34.70)	18 (5.29)	38 (11.17)	2.41	1.331
Level of competitiveness	25 (7.35)	30 (8.82)	61 (17.94)	55 (16.17)	169 (49.71)	3.92	1.300
Takes Risk	47 (13.82)	18 (5.29)	63 (18.52)	33 (9.70)	179 (52.65)	3.82	1.463
Hurry	12 (3.52)	23 (6.76)	77 (22.64)	56 (16.47)	172 (50.59)	1.96	1.150

In the five-point scale scores 1-5 denote attributes ranging from lower level to higher level [e.g., score 1 means Intolerant and score 5 means Tolerant]. Higher mean values denote stronger personality characteristics of the respondents.

Anxiety is described as a vague fear associated with emotions of terror, horror, panic and fright. The feelings of uncertainty and helplessness also develop during anxiety. The above mentioned emotions and feelings give rise to stress and also enhance the severity of stress by influencing their cognitive appraisals. High anxiety level is found among 62.05% of respondents.

Rigid employees are susceptible to comparatively more stress than flexible minded employees who can mould themselves according to situations. Individuals with lower level of self-esteem also experience higher level of stress. High level of competitiveness is observed among 49.71% of the respondents and 62.35% of the respondents are risk takers. Again 67.06% of the respondents are found "always in a hurry."

5.2.1.2. Role Characteristics

While interacting with the diverse work forces in an organization, an employee encounters several problematic situations. Following Shakespeare's well-known metaphor, *All the world's a stage, and all men and women merely players*, all the members in an organization too, are actors. Each member occupying a distinct position tries to perform the requisite "role". The term "role" refers to *a set of expected behaviour patterns attributed to someone occupying a given position in a social unit*. An individual has to play multiple roles throughout his life. Now, while discharging the responsibilities attached to diverse roles, he suffers from several role stresses. One or more role stress might affect the person at the same time.

Respondents suffer from lower level of stresses like role ambiguity, role isolation and personal inadequacy and moderate level of inter-role distance, role stagnation, role expectation conflict, role erosion, role overload, self-role distance and resource inadequacy.

Managerial jobs where responsibilities are more general in nature and role definitions and task specifications are not clear, give rise to role ambiguity. It is also prevalent among companies that have merged or acquired other companies while keeping the employees. Hence, the employees suffer from uncertainty regarding their role content and immediate reporting authority. This confirms hypothesis (B).

5.2.2. Group can be a Potential Source of Stress

Group cohesiveness or "togetherness" is significant for the employees. It is found that an employee suffers from considerable amount of stress if denied the opportunity for this cohesiveness due to the negative reaction he gets from group members. Occupational Stress Index is measured on a five point Likert's Summated Scale: score 1 denotes Strongly Disagree and score 5 denotes Strongly Agree. Table 2 shows that 31.17% of the respondents agrees that their superior always focus on negatives while ignoring good performance.

Table 2 : Frequency, Mean and S.D. of the Important Attributes under the Occupational Stress Index of the Respondents.

Attributes	Frequency (%)					Mean	S.D.
	Score						
	1	2	3	4	5		
Frustrated after two or three attempts	25 (7.35)	43 (12.64)	56 (16.47)	171 (50.29)	45 (13.23)	3.49	1.101
Limited opportunities for growth	106 (31.17)	52 (15.29)	22 (6.47)	55 (16.17)	105 (30.88)	3.00	1.675
Non-supportive superiors and colleagues	122 (35.88)	60 (17.64)	36 (10.58)	99 (29.12)	23 (6.76)	2.53	1.400
Interpersonal conflicts	26 (7.64)	30 (8.82)	33 (9.70)	151 (44.41)	100 (29.41)	3.79	1.180
Stress helps to enhance performance	12	26 (3.52)	54 (7.64)	125 (15.88)	123 (36.76)	3.94 (36.17)	1.070
Hostile organizational climate	63 (18.52)	38 (11.17)	23 (6.76)	158 (46.47)	58 (17.05)	3.32	1.379
Apprehensive of transfer	148 (43.52)	19 (5.58)	21 (6.17)	52 (15.29)	100 (29.41)	2.81	1.761

Difficulty due to rotating work shifts	243 (71.47)	20 (5.88)	29 (8.52)	16 (4.70)	32 (9.41)	1.75	1.333
Expectations and responsibilities of the job is not clearly defined	254 (74.70)	38 (11.17)	17 (5.00)	22 (6.47)	9 (2.64)	1.51	1.029
Superiors focus on negatives	114 (33.52)	50 (14.70)	40 (11.76)	97 (28.53)	9 (2.64)	2.70	1.465
Always under time pressure	43 (12.64)	14 (4.11)	20 (5.88)	108 (31.76)	155 (45.59)	3.94	1.349
Lack of available resources	49 (14.41)	53 (15.58)	26 (7.64)	78 (22.94)	134 (39.41)	3.57	1.489
Insufficient number of employees	100 (29.41)	118 (34.70)	35 (10.29)	35 (10.29)	52 (15.29)	2.47	1.402
Inadequate time for family	26 (7.64)	40 (11.76)	20 (5.88)	121 (35.58)	133 (39.11)	3.87	1.263
Inadequate salary	68 (20.00)	38 (11.17)	19 (5.58)	73 (21.47)	142 (41.76)	3.54	1.586
Contradiction of self-concepts with organizational role	49 (14.41)	32 (9.41)	27 (7.94)	143 (42.05)	89 (26.17)	3.56	1.352
No job satisfaction	4 (1.17)	3 (0.88)	9 (2.64)	17 (5.00)	247 (72.64)	4.65	1.401

When the employees are able to share their problems and happiness with other members of the group, they can satisfy their social needs. Thus, social support from the members of the group keeps them much better off. But if there is lack of social support, the employees experience severe stress. 35.88% agreed that their supervisors and co-workers are non-supportive.

Conflict is associated with incompatible or hostile acts between intra-individual dimensions, between individuals within a group and between groups. It is found more when people come from different socio-economic backgrounds and have different political and religious views. There may be disagreements over ethics, the way power should be exercised or interpretation of moral considerations of assumptions, justice, and fairness etc. These differences may affect their preference of either goals or methods of achieving goals. 73.82% agreed that interpersonal conflicts exist in their groups. Several factors like goal incompatibility, resource sharing, task relationships, uncertainty absorption and attitudinal set determine the inter-group relationships. If the factors are negative, they create conflict among two or more groups. This is in confirmation to hypothesis (C).

5.2.3. Organizational Factors Giving Rise to Stress

The nature of the job itself can determine the type and degree of stress to be experienced by an individual. Routine jobs, jobs involving frequent transfers or constant travelling may give rise to stress to an individual. 44.70% of the respondents do not want to get transferred to a new location. Geographical relocation arising out of a transfer or promotion disrupts the daily schedule of an employee and thus causes stress. The fear of working in a new location, unpredictability about new work environment and the prospect of creating new relationships cause anxiety among employees. Thus hypothesis (F) is established.

The degree of stress experienced by an individual is also determined by the extent of opportunity provided by the job to satisfy several needs of the employees like autonomy, social interaction, power, use of knowledge, abilities etc. If there is lack of job enrichment and little opportunity for fulfilment of these needs, high degree of stress is experienced by the job occupants. 47.05% agreed that their jobs have limited opportunities for learning and growth. Here hypothesis (D) is established.

Organizational physical conditions also affect employees' performances. Hazardous physical conditions at work like poor lighting, continued loud noise, excessive cold or heat, fluctuation in temperature, crowding and lack of privacy, inadequate ventilation, improper placement of furniture, air pollution, dirty or smelly environment also create stress. Employees carrying out the day-to-day operations in the metro railway suffer from the highest level of stress. They have to work in rotating shifts, which disturb their sleeping patterns. The underground working environment with lack of proper ventilation creates suffocation to most of the employees. Some time they are forced to work in both shifts (i.e. for 16 hours) due to absence of reliever and thus suffer from physical and psychological stress. Moreover, they do not get holidays during Pujas and other national holidays, which create dissatisfaction among them and their families. They miss their social life owing to the nature of their job.

Organizational culture and climate also have been found to produce considerable amount of stress. "Competition" is an important stress-producing element that results from organizational culture. Again 63.52% of the respondents agreed that their organizational climate is totally task-oriented, unfriendly and hostile.

It is found that employees suffer from stress as a result of power struggles or office politics prevailing in the organizational practices like promotions and transfers, allocation of supplies or equipment, division of authority and co-ordination between high level managers.

Working under time pressure is highly stressful to meet a deadline. 77.35% of the respondents feel that they suffer from lack of time to complete important tasks. They feel overloaded being unable to comply with their duties. Thus hypothesis (G) is confirmed.

Inadequate or absence of performance feedback causes dissatisfaction among the employees, whereas adequate performance feedback increases employees' motivation and performance.

If the feedback is not provided at the right time or is less frequent, the focal person experiences stress. Again, lack of rewards or incentives give rise to frustration and stress among the employees. Rewards for better or exceptional job performance consist of monetary compensation or benefits, recognition, appreciation, privilege and promotion. The non-financial rewards also help to enhance employees' motivation and performance level. Table 3 shows that 70.59% of the respondents feel that their performance is not objectively appraised and given due significance. Thus hypothesis (E) is established.

Job anxiety scale is measured in a 5 point Likert's Scale : 1 denotes Strongly Disagree and 5 denotes Strongly Agree.

Table 3 : Frequency, Mean and S.D. of the Important Attributes under the Job Anxiety Scale of the Respondents.

Attributes	Frequency (%)					Mean	S.D.
	Score						
	1	2	3	4	5		
Feels lack of efficiency	75 (22.05)	47 (13.82)	45 (13.23)	100 (29.41)	73 (21.47)	3.14	1.469
Lack of performance appraisal	33 (9.70)	39 (11.47)	28 (8.23)	155 (45.59)	85 (25.00)	3.65	1.243
Afraid of false allegations	59 (17.35)	19 (5.58)	12 (3.52)	53 (15.58)	197 (57.94)	3.91	1.550
No one to confide among colleagues	80 (23.52)	94 (27.64)	26 (7.64)	98 (28.82)	42 (12.35)	2.79	1.400

It has been found that changes in the organizational set up give rise to stress to the technical persons working in the government undertaken communication sector. It is generally found that employees suffer from the anxiety of being transferred to a location far from their residence. In the insurance sector, employees suffer from lack of adequate training. Agents of the government insurance sector, who do not belong to the direct payroll of the company, suffer from higher-level stress originating due to insecurity. Cameramen suffer from shoulder pain working in private television channels under communication sector. Reporters do not get adequate feedback of their performances. Employees working in the marketing division suffer from leg pain. There is lack of performance evaluation in most of the departments of the private television channels.

5.2.4. Extra-Organizational Factors Produce Considerable Amount of Stress

An organization is greatly affected by the external environment. It is clear that occupational stress is not confined to things happening inside the organization during working hours. Extra-organizational stressors are caused by factors outside the organization.

A person's family situations including illness of a family member or long-term strained relations with spouse or children predominantly act as stressors for employees. 74.69% of the respondents are not able to spend sufficient time with family due to excessive workload.

5.3. Mitigation of stress

Respondents are found to adopt stress resistant cognitive behavioural patterns and coping strategies in order to mitigate stress. Stress resistant cognitive behavioural patterns and coping strategies are measured on a 5 point scale where 1 denotes "Never", 2 denotes "Rarely", 3 denotes "Sometimes", 4 denotes "Quite often" and 5 denotes "Regularly".

Table 4 : Frequency, Mean and S.D. of the Important Attributes under the Stress Resistant Cognitive Behavioural Patterns Scale of the Respondents.

Attributes	Frequency (%)					Mean	S.D.
	Score						
	1	2	3	4	5		
Support from friends	16 (4.70)	17 (5.00)	95 (27.94)	154 (45.29)	58 (17.05)	3.65	0.977
Seek help from God	26 (7.64)	27 (7.94)	108 (31.76)	73 (21.47)	106 (31.17)	3.61	1.218
Exercise regularly	211 (62.06)	20 (5.88)	28 (8.23)	31 (9.11)	50 (14.70)	2.09	1.546
Facilities of physical exercises in the organizational premises	192 (56.47)	6 (1.76)	13 (3.82)	11 (3.23)	18 (5.29)	1.40	1.072
Music acts as a stress reliever	3 (0.88)	0 (0.00)	12 (3.52)	32 (9.41)	293 (86.18)	4.80	0.581
Delegation of responsibilities	30 (8.82)	27 (7.94)	30 (8.82)	100 (29.41)	153 (45.0)	3.94	1.285
Try to uproot problems at outset	3 (0.88)	4 (1.17)	10 (2.94)	194 (57.05)	129 (37.94)	4.30	0.668
Long-term solution of problems	35 (10.29)	24 (7.05)	45 (13.23)	27 (7.94)	159 (46.76)	3.89	1.342
Prioritize responsibilities	6 (1.76)	16 (4.70)	12 (3.52)	104 (30.58)	202 (59.41)	4.41	0.900
Don't expect or depend on others	120 (35.29)	101 (29.70)	29 (8.52)	24 (7.05)	66 (19.41)	2.46	1.505

Regarding the stress resistant cognitive behavioural patterns of the respondents, it is found that 62.34% believe that their close reliable friends give sympathetic hearing to their problems, 52.64% of the respondents believe God is their best friend and seeks his support at times of need and 67.94% do not exercise regularly. According to 95.59% of the respondents, music acts as a great healer, 64.70% of the respondents try to find out long term solution of problems rather than temporary ones and 89.99% of the respondents prioritize their responsibilities. Employees listen to classical, instrumental music and various other types of music that produces a soothing effect and helps them to get rid of stress. The MNCs under insurance sector have introduced a wellness program for their employees consisting of Yoga and Pranayam.

Coping strategies scale reveals that 75.88% of the respondents devote more time and energy to meet the demands of the situation. 88.23% percent of the respondents discuss with others who can help them to solve the problem, 79.12% of the respondents try to release their emotional distress by talking to someone and 96.17% of the respondents develop hobby to cope up with stress. Employees have been found to possess various types of hobbies like reading books, singing, playing cricket, football, carom, gardening, practicing philosophy, gossiping, writing stories, social work, annual touring, watching movie and walking. Many employees love to spend time with their children to release their job stress. Sleeping also helps to combat stress of the employees.

Table 5 : Frequency, Mean and S.D. of the Important Attributes under the Coping Strategies Scale of the Respondents.

Attributes	Frequency (%)					Mean	S.D.
	Score						
	1	2	3	4	5		
Deal with the problem with more time and energy	12 (3.52)	18 (5.29)	52 (15.29)	93 (27.35)	165 (48.53)	4.12	1.075
Discuss with others	11 (3.23)	6 (1.76)	23 (6.76)	69 (20.29)	231 (67.94)	4.48	0.939
Talking to someone helps to release emotional distress	23 (6.76)	18 (5.29)	30 (8.82)	68 (20.00)	201 (59.12)	4.19	1.211
Develop a hobby to cope with stress	5 (1.47)	2 (0.58)	6 (1.76)	41 (12.05)	286 (84.12)	4.77	0.653

6. CONCLUSION AND SUGGESTIONS

It can be concluded that several personality traits like high level of competitiveness, risk taking ability, intra-psychic conflicts and locus of control produce considerable amount of stress to the respondents. Occupational Stress Index consists of factors related to several types of role stresses, peer relationship, working environment, transfers, rotating work shifts, excessive workload, political or group pressures, training programs, job satisfaction, infrastructural facilities, etc. It has significant impact on the respondents. Job anxiety level among the respondents depends on several factors like inefficient job performance, job insecurity, misunderstanding among peers, and absence of performance appraisal, professional jealousy, false allegations, and argument with boss, etc. Regarding role stresses it is found that the respondents suffer from moderate level of inter-role distance, role stagnation, role expectation conflict, role erosion, role overload, self-role distance and resource inadequacy. Among extra-organizational factors, problems related to family life give rise to stress.

From the perspective of an employee, choosing the right profession analyzing one's strengths, weaknesses and area of interest can help to reduce work-related stress to a great extent. According to yogic understanding, apart from parasitic and viral infections, almost all diseases start in the mind and if not handled within time are manifested in some part of the body. These diseases are known as psychosomatic diseases. Yoga helps to heal the body as well as re-train the mind. Medicine can play a supportive role while regular practice of yoga can initiate a normal, healthy and balanced approach to life. In order to restore harmony and inner peace, one should find a suitable combination of personality traits, work, rest, exercise and diet. According to yoga sayings, an individual cannot change the world, but he can change his reactions to situations by changing himself. Individuals are constantly preoccupied by thoughts, fears, anxieties, insecurities, hopes and expectations. Hence overall sense of well-being of a person is highly influenced by his way of dealing with situations. One should regularly practice "pratyahara" which will help him to develop a sense of detachment from the achievements and failures of life. Managing time intelligently can help one to maximize productivity. An employee should learn when to say no, otherwise he will be in the danger of stretching himself too thin. A job occupant should know the boundaries of his job. One should set short-term targets and after achieving those goals, one should take out time to celebrate the occasion with family and friends. Delegation of responsibility helps one to get rid of handling a situation alone. Job occupant should take negative comments as constructive criticisms and thus try to improve his work. He should not unnecessarily personalize any criticism. A strong personality type can combat job anxiety better than a weaker one. Hence, organizations should arrange for personality development programmes periodically for the job occupants. Apart from conventional education, professional, job specific and moral education should be introduced at institutions for overall grooming of the individuals. Employee assistance programmes should focus at managing change, grief and bereavement, marriage and family problems, depression, integrating work and life and managing personal stress through orientation programmes, face to face counselling, telephone counselling etc. Building up informal relations with the members of the staff may reduce the problem. In order to keep the organizational stress under control, management

should constantly monitor and review the stress management interventions and the results so that they could be changed and modified with time. Job rotation helps to reduce stress and monotony among the employees arising from particular task. Workload should be properly distributed. Performance appraisal system should be strengthened and feedback from the employees should be taken from time to time so that their attitude and feelings about the job could be known.

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CONVERGENCE WITH IFRS IN INDIA : BITING THE BULLET

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ABSTRACT : The introduction of International Financial Reporting Standards (IFRS) represents a fundamental change in financial reporting in the global accounting practice. In reality, the initiation of IFRS for companies in many countries around the world is one of the most significant regulatory changes in accounting history. Adoption of IFRS, the new global reporting standards, would improve comparability, transparency and credibility of financial statements and in a globalised world, would lead to greater economic efficiencies. IFRS is the collection of financial reporting standards that can be applied across the globe developed by the International Accounting Standards Board (IASB), an independent, international standard setting organization. Some of the countries have gone for full-fledged adoption of IFRS while India, has taken the path of convergence rather than adoption. The Government of India has announced that IFRS will be mandatory for financial statements for the periods beginning on or after April 1, 2011. India is pursuing a convergence approach starting from April 1, 2011 in a phased style following a roadmap presented by the government. Converging with IFRS will have multiple benefits for Indian companies especially those who aspire to go global. There are substantive differences between the Indian GAAP and IFRS but these differences will be addressed properly by convergence with IFRS. International experience relating to adoption of IFRS is satisfactory. IFRS-1 has taken into account the problems faced by countries in transiting from local GAAP to IFRS. Therefore, similar difficulties will not be faced by Indian companies. There are so many huddles in the path of successful implementation of convergence process in

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India. It is necessary to have faith in the accountants and auditors associated with preparation and audit of financial statements. The paper examines the implications of IFRS in India.

Key Words : *International Financial Reporting Standards (IFRS), Generally Accepted Accounting Principles (GAAP), International Accounting Standards (IAS), Small and Medium Companies (SMCs).*

1. UNVEILING IFRS: A REFRESHING IDEA

The introduction of IFRS represents a fundamental change in financial reporting in the global accounting practice. In fact, the initiation of International Financial Reporting Standards (IFRS) for companies in many countries around the world is one of the most significant regulatory changes in accounting history (ABACUS 2010). IFRS is the collection of financial reporting standards developed by the International Accounting Standards Board (IASB), an independent, international standard setting organization. IFRS is very important for the future of accounting on a worldwide basis. With businesses turning global, it is important that investors are able to compare companies under similar standards. Likewise, it is important for businesses operating in multiple countries to be able to create financial statements that are understandable in all of the countries they operate in. Earlier the standard setting responsibility was imposed on the International Accounting Standard Committee (IASC).

The International Accounting Standard Committee (IASC) came into existence on 29 June, 1973 as a result of an agreement by accountancy bodies in Australia, Canada, France, Germany, Japan, Mexico, the Netherlands, the United Kingdom, Ireland and the United States of America. A revised Agreement and Constitution were signed in November 1982 (Agarwal 2002). The business of IASC is conducted by a Board comprising representatives up to 13 countries and up to 4 organizations, having an interest in financial reporting and the main objective was to issue principle-based accounting standard for harmonized accounting practice. On 1 April, 2001, the International Accounting Standards Board (IASB) presumed accounting standard-setting responsibilities from its predecessor body, the International Accounting Standards Committee (www.iasb.co.uk). Since then, the IASB has amended some IASs, has proposed to amend other IASs, has proposed to replace some IASs with new International Financial Reporting Standards (IFRSs) and has adopted or proposed certain new IFRSs on topics for which there was no previous IAS. The IASB is an independent standard-setting board, appointed and overseen by a geographically and professionally diverse group of trustees of the IASC Foundation who are accountable to the public interest. It is supported by an external Standards Advisory Council (SAC) which advises the IASB on various technical and strategic issues, for example; selection of topics for future development into standards. In addition, the IASB is also supported by the International Financial Reporting Interpretations Committee (IFRIC) which is mandated to interpret the standards and produce binding guidance when divergences occur in the application of the standards.

There are two principal accounting frameworks in function today: Generally Accepted Accounting Principles (GAAP), and some iteration of the International Financial Reporting Standards (IFRS), promulgated by the International Accounting Standards Board, which has been the

standard in much of the rest of the world. While there are significant variations in IFRS from one country to the next, some form of IFRS is in use in more than 100 countries (and in mandatory use in nearly 30), and by more than 12,000 companies, representing one-third of global market capital. IFRS stands for International Financial Reporting Standards include standards and interpretations adopted by International Accounting Standards Board including International Accounting Standards (IAS) and Interpretations developed by International Financial Reporting Interpretation Committee (IFRIC). Hence, IFRS is a wider term and includes previously issued IAS as well. IASB started issuing IFRSs to emphasize upon its commitment towards better financial reporting after some accounting scandals such as Enron came into picture. So, it should be made clear that 29 IASs and 9 IFRSs issued by IASB stand at par in terms of financial accounting and reporting and when one talks of an entity being IFRS compliant, it covers the compliance of an entity with IAS as well.

Actually, the intention of the IASB is to issue principle-based standards that can be applied across the globe. Ever since the occurrence of accounting scandals such as Enron in the beginning of the millennium, the principles-versus-rules debate has been on top of the agenda of securities regulators, especially of the U.S. Securities and Exchange Commission (SEC), and of national and international standard setters and accounting bodies, such as the U.S. Financial Accounting Standards Board (FASB), the International Accounting Standards Board (IASB) and the Institute of Chartered Accountants of Scotland (ABACUS 2010).

The aim of this paper is to examine the implications of IFRS in India. The paper is divided into eight sections. The second section explores the debate between adoption and convergence. The third section focuses on the needs and benefits of convergence with IFRS. In the next section, an attempt is made to examine the Indian road map for convergence with IFRS presented by government. The fifth section concentrates on the ambiguities around the Indian roadmap. The sixth section highlights the main differences between IFRS and Indian GAAP. In seventh section, an attempt is made to canvas the status of IFRS in international and Indian level. The last section touchstones the prerequisites for effective launching of IFRS in India.

2. ESPOUSAL OF IFRS : A COURSE OF CONDUCT

Accounting standard-setters around the world have been working on convergence or uniform accounting standards among countries for decades. Progress has been slow, but it has picked up speed in recent years. And, as convergence moves closer to reality, the end of Generally Accepted Accounting Principles (GAAP) may be drawing nearer. International Financial Reporting Standards (IFRS) is fast becoming the de facto accounting standard across the world. The adoption of IFRS would result in one set of high-quality, globally accepted accounting standards that would bring uniformity in reporting and make the world one common mart. Different countries have taken different paths towards adopting IFRS. Some of the countries have gone for full-fledged adoption of IFRS while some others, including India, has taken the path of convergence rather than adoption.

There are varied views on adoption vs. convergence. Some are of the view that adoption is the only way to achieve the goal of getting to a single set of high-quality, globally accepted accounting standards. The world is becoming one single market and adoption would result in reduced reporting costs for multinational companies, better comparability of performance of companies across the world and improved allocation of capital by global investors. The other point of view supports convergence, arguing that adoption of IFRS would result in countries giving up significant control over the standard setting process. The argument further goes that

convergence, over a period of time, will help enterprises in concerned countries to have a soft landing, while adopting certain standards in IFRS could put their companies in a disadvantageous position.

India has taken the route of convergence to IFRS by 2011 keeping in view the local conditions including legal, regulatory and economic environment. There is a clear roadmap for companies to converge, with the set of converged standards to be issued by the domestic accounting standard setters. While the government has taken this view and is moving towards it with a plan, it is important to debate whether this is the right thing to do for India (www.financialexpress.com).

3. Convergence with IFRS: Takes and Gains

Adoption of IFRS, the new global reporting standards, would improve comparability, transparency and credibility of financial statements and in a globalised world, would lead to greater economic efficiencies. In the present era of globalization and liberalization, the world has become an economic village. The globalization of the business world and the attendant structures and regulations, which support it, as well as the development of e-commerce make it imperative to have a single globally accepted financial reporting system.

A number of multi-national companies are venturing their businesses in various countries with emerging economies. At the same time, entities in these emerging economies are increasingly accessing the global markets to fulfill their capital needs by getting their securities listed on the foreign stock exchanges apart from their own country.

Capital markets are, thus, becoming integrated consistent with this world-wide trend. More and more companies are being listed on the international stock exchanges. Therefore, sound financial reporting system is imperative for the well being of the economies and for the effective functioning of the capital markets.

In the absence of a well developed accounting system and a comprehensive set of generally accepted accounting principles, a company will not be in a position to provide reliable information. The use of different accounting frameworks in different countries, which require inconsistent recognition, measurement and presentation of the same underlying economic transactions, creates confusion among the users of financial statements. This confusion leads to inefficiency in capital markets across the world.

Therefore, the increasing complexity of business transactions and globalization of Capital Markets calls for a single set of High Quality Standards. High quality standards of financial statements underpin the trust investors place in financial and non-financial information. Thus, the case for a single set of globally accepted accounting standards has prompted many countries to pursue convergence of national accounting standards with IFRSs (www.trastutors.com).

The magnificence of IFRS comes in the form of benefits that can be achieved through convergence:

- i) Meliorated entrée to international capital markets – Comparable financial reporting across firms from different countries facilitates access to international capital markets.
- ii) General access to low-cost foreign funds – Accounting and reporting on common accounting

principles provide access to foreign funds through higher acceptability of the global accounting language, thereby leading to higher FII inflow and lower cost of capital.

- iii) Easier comparability with global peers – Global reporting language in the form of IFRS is bound to facilitate the comparability of an enterprise with not only its national competitors but global peers as well.
- iv) Elimination of multiple reporting costs – Multinationals having global operations in IFRS driven countries will find cost savings by having all their business units / investments on a common accounting platform. Further, the IFRS-compliant financial statements will eliminate multiple reporting in different accounting standards in different countries.
- v) Prospects for professionals – Being a comparatively new subject, professionals like CAs and CFAs with sound theoretical and practical knowledge of IFRS are certain to have more opportunities in the times to come.

4. CONVERGENCE WITH IFRS : INDIAN GUIDELINES

India is pursuing a convergence approach. Convergence implies allowable differences in presentation, measurement, recognition and disclosures. Of course, it is not yet clear whether there will be full compliance or not. But, it is obvious that when the Indian standards will be converged to IFRS, the compliance with Indian Accounting Standards would automatically ensure compliance with IFRS. But the fact is that the recent press release of the Ministry of Corporate Affairs signals, unlike Malaysia and Canada, India has not yet signaled full convergence (The Hindu 2010).

Ministry of Corporate Affairs (MCA) has constituted a Core Group for convergence of Indian Accounting Standards with International Financial Reporting Standards (IFRS). The group has a consensus on the fact that the convergence with IFRS is to be done in a phased manner based upon the public accountability of the company. Acknowledging the fact that there would be two categories of companies at any given point of time till the convergence process gets completed, the Core Group has agreed that there will be two separate sets of Accounting Standards u/s Section 211(3C) of Companies Act, 1956. (MCA Press Releases 2010)

- The first set of accounting standards would comprise of the IFRS-converged accounting standards which shall be applicable to the specified class of companies; and
- The second set would comprise of existing Indian Accounting Standards which would be applicable to other companies including Small and Medium Companies (SMCs).

IFRS-converged accounting standards will be prepared by Accounting Standards Board of ICAI and submit the converged version to the National Advisory Committee on Accounting Standards (NACAS) from time to time for recommendations and onward submission to MCA. Draft Companies (Amendment) Bill will be published soon. Revised Schedule VI to the Companies Act, 1956 according to the converged Accounting Standard has been submitted by the ICAI to NACAS which, after review, has been submitted to the Ministry by January 31, 2010. Amendments to Schedule XIV will also be made in a time bound manner. On January 22, 2010 the MCA has issued the road map for transition to IFRS.

The IFRS-converged accounting standards would apply to specified class of companies in phases as follows :

Phased Applicability of Converged Accounting Standards :¹Opening balance sheet as at 1st April using IFRS - converged accounting standards

2011	2012	2013	2014
<ul style="list-style-type: none"> > Companies which are part of NSE - Nifty 50; > Companies which are part of BSE - Sensex 30; > Companies whose shares or other securities are listed on stock exchanges outside India; and > Companies, whether listed or not, which have a net worth in excess of Rs.1,000 crore; 	<ul style="list-style-type: none"> > All insurance companies 	<ul style="list-style-type: none"> > Companies, whether listed or not, having a net worth exceeding Rs. 500 crores but less than Rs.1,000 crores; > All scheduled commercial banks; > Urban co-operative banks having a net worth in excess of 300 crores; > NBFCs - Nifty 50 or Sensex 30; > NBFCs listed or not, having a net worth in excess of Rs.1,000 crore; 	<ul style="list-style-type: none"> > Listed companies with a net worth of Rs. 500 crores or less; > Urban co-operative banks having a net worth between Rs.200 to 300 crores; > NBFCs (all other listed) > NBFCs (all other unlisted) having a net worth between Rs. 500 crores to Rs.1,000 crores;

- Companies not covered in the above chart may apply existing 'Indian accounting standards' or voluntarily opt to apply the 'IFRS - converged accounting standards'.
- When the accounting year ends on a date other than 31 March, the conversion of the opening balance sheet will be made in relation to the first balance sheet which is made on a date after 31 March.
- The non-listed companies having net worth of Rs. 500 crores or less and whose shares or other securities are not listed on a stock exchange outside India, and

¹ www.pwc.com

Small and Medium Companies (SMCs) will not be required to follow the notified accounting standards (though they may voluntarily opt to do so) but need to follow only the accounting standards which are not converged with IFRS.

- One of the issues raised by stakeholders is the tax implications in following converged standards. ICAI had set up a Group for identifying tax issues arising on convergence. The group includes nominees from Ministry of Finance. The Group has prepared a draft report identifying certain options which could be adopted to achieve tax neutrality. Secretary, MCA held a meeting with members of the Group, and instructed it to come up in a time bound manner with a specific proposal which will be revenue neutral and acceptable to the Ministry of Finance, while also compatible with IFRS and meeting the needs of the Corporate sector. The implementation of converged accounting standards with IFRS will go on as per schedule. (MCA Press Releases, Nov 2010)

5. IFRS GUIDELINES: ADDRESSING THE EQUIVOCATION

The roadmap for changeover to International Financial Reporting Standards (IFRS), specifically a three-year switchover for all companies will confound banks, investors and others. In Phase II starting April 1, 2013, companies with net worth of over Rs 500 crores will come into the IFRS net, and in last phase, from April 1, 2014, all remaining listed companies would get covered. All other entities not covered by 2014 would have the option to follow Indian generally-accepted accounting principles (GAAP) or adopt IFRS on a voluntary basis. Recently, the MCA also issued the clarifications around adoption of IFRS converged accounting standards by India Inc. Although it is heartening to have clarity on the roadmap, there are issues that may need deliberation.

- IFRS requires minimum one year of comparatives to be presented. Therefore, when an entity follows IFRS for the first time in its financial statements for the year ending March 31, 2011, it needs to give the financial information for the year ending March 31, 2010 as a comparative. The date to follow IFRS is actually 2010 since comparatives of previous year also have to comply with IFRS (Report of the Committee on IFRS compliance in Indian insurance industry 2009)
- One aspect is clear, for many years, we will face dual accounting standards and framework. This might be convenient, but is likely to create confusion for users of financial statements, including banks, investors and even regulators. The financial statements of peer companies may not be comparable, posing a challenge for analysts and investors. (The Economic Times 2010)
- Consider revenue recognition for multiple element contracts or even a real estate company. The application of IFRS principles and Indian GAAP will lead to varying results for revenue recognition and, consequently, the reported earnings for a particular year. Industry-result comparison by investors and market participants will be challenging. This would also pose a challenge for the taxation authorities because profitability numbers will get reported differently for similar companies, thereby changing the base for levy of tax.
- Net worth is an important indicator of size, but there are other significant financial key performance indicators, mainly revenues and borrowings. It might have been

appropriate to include some of these parameters in defining the applicability criteria. For instance, two companies may be of similar size in terms of revenues and operations, but one company may have significant debt, in which case its net worth may not be over Rs 1,000 crore. Therefore, IFRS will not apply to this company, but it will apply to a company that has zero or little debt (The Economic Times 2010)

- A phased implementation is a desirable and pragmatic approach as it would allow time to prepare. It is also largely in line with the roadmap for IFRS implementation announced in the US. However, the US may not be in such a hurry because it already has a comprehensive and perhaps even superior reporting GAAP framework, whereas Indian GAAP is largely deficient particularly in terms of business combinations, stock compensation, revenue recognition and fair value accounting. An accelerated conversion plan would have made more sense for Indian companies, at least for those with significant borrowings, and for all listed companies.
- The bigger question is that the roadmap is outlined in the context of stand-alone legal entities. This is paradoxical in the global context, as the IFRS framework only recognizes group financial statements or consolidated accounts. Suppose the net worth of stand-alone entity is less than Rs 1,000 crore, but at group level after including subsidiaries and joint ventures, it exceeds the defining threshold. Should the entity adopt IFRS? This needs consideration since consolidated group accounts are relevant and important from an investor's standpoint (The Economic Times 2010).
- The MCA has also clarified that it will notify the IFRS-converged accounting standards, which are to be followed by India Inc and not necessarily the IFRS standards as issued by International Accounting Standards Board. Therefore we would have our own version of IFRS.

6. SWITCHOVER TO IFRS REGIME: ANTICIPATED INCOMMODOES

Indian corporates are confronting difficulties in many areas in relation to IFRS transition. There may be many different reasons for departure from IFRSs due to: i) maintaining consistency with legal and regulatory requirements, ii) economic environment iii) level of preparedness, and iv) conceptual difference. Some of the major difficulties and equivalence between IFRS and INDIAN GAAP may be recounted in the following lines (ifrs@bdoindia.co.in and The Hindu 2010):

- **Componentization of property, plant and equipment and making depreciation charge :** IAS 16 mandates component accounting whereas AS 10 does not require full adoption of the component approach ;
- **Re-creation of cost records of property, plant and equipment (PPE) for IFRS adoption :** IFRS recommends regular valuations of entire classes of assets are required when revaluation option is chosen. However, as per INDIAN GAAP revaluations are permitted, but, no requirements on frequency of revaluation and revaluation for the whole class of assets is not required ;
- **Cost vs. Fair Value :** IFRS generally uses historical cost, but intangible assets, property, plant and equipment (PPE) and investment property may be measured at fair value.

Derivatives, certain other financial instruments and biological assets must be revalued. Indian GAAP uses historical cost, but fixed assets may be revalued. Certain derivatives are carried at fair value. There is no comprehensive guidance on derivatives and biological assets ;

- **Measurement of amortized cost of financial assets and financial liabilities having scheduled cash flows :** IFRS generally uses two way measurement for financial assets and financial liabilities : Initial measurement and subsequent measurement. Initial measurement of financial assets is at fair value. Subsequent measurement is at amortized cost using effective interest method for 'Loans and Receivables' and 'Held-to-maturity investments'. Initial measurement of financial liabilities is at fair value of the consideration received. Subsequent measurement is at amortized cost using effective interest method for other liabilities. As per INDIAN GAAP long term investments are recorded at cost less diminution. Current investments are recorded at lower of cost or market value in accordance with AS 13. However, for Banking, Mutual Fund and Insurance sectors, the respective regulators (i.e. RBI, SEBI and IRDA) prescribe guidelines for measurement of Investments. No guidance is there in INDIAN GAAP relating to measurement of financial liabilities ;
- **Creation of tax base of assets and liabilities :** IFRS requires entities to account for taxation using the Balance Sheet approach which focuses on temporary difference between the carrying amount of an asset or liability in the statement of financial position and its tax base. Whereas, INDIAN GAAP requires tax is accounted for using the Income statement approach, which focuses on timing difference ;
- **Decomposing compound financial statements :** IFRS does not prescribe a particular format, it prescribes the components of the financial statements that together would be considered as a complete set of financial statements. In INDIAN GAAP, Companies Act requires preparation of Balance Sheet, Profit and Loss Account, and Notes to Accounts. Concepts like, SOCIE (Statement of Changes in Equity) does not prevail ;
- **Recognizing and measuring financial instruments :** The ICAI has issued standards (AS-31 and 32) for recognition and measurement of financial instruments and their presentation and disclosure which are recommendatory from 1.4.2009 and mandatory from 1.4.2011. Hence, the recognition of financial instruments is of no habit. However, accounting of certain financial instruments are provided in AS 13 "Accounting for Investments" and Guidance Note on "Accounting for Equity Index and Equity Stock Futures and Options" issued by the ICAI. Also, it is necessary to note that recognition, measurement, presentation and disclosure of financial instruments is governed by the respective regulators of various industries like RBI, SEBI and IRDA ;
- **Acquainting concept of compound financial instruments :** IAS 32 requires compound financial instruments, such as convertible bonds, to be split into liability component and equity component and each component is recorded separately. In INDIAN GAAP no split accounting is required and financial statements are classified either as equity or liability depending on their primary nature e.g., a convertible debenture is generally treated as liability.

Because of ongoing convergence projects, the extent of the specific differences between IFRS and INDIAN GAAP is shrinking. Yet, troubles may also bob up in case of inventory

valuation, non-current assets held for sale and discontinued operations, business combinations, effects of changes in foreign exchange rates, impairment of assets, intangible assets, barter transactions during transmutation period *(ifrs@bdoindia.co.in).

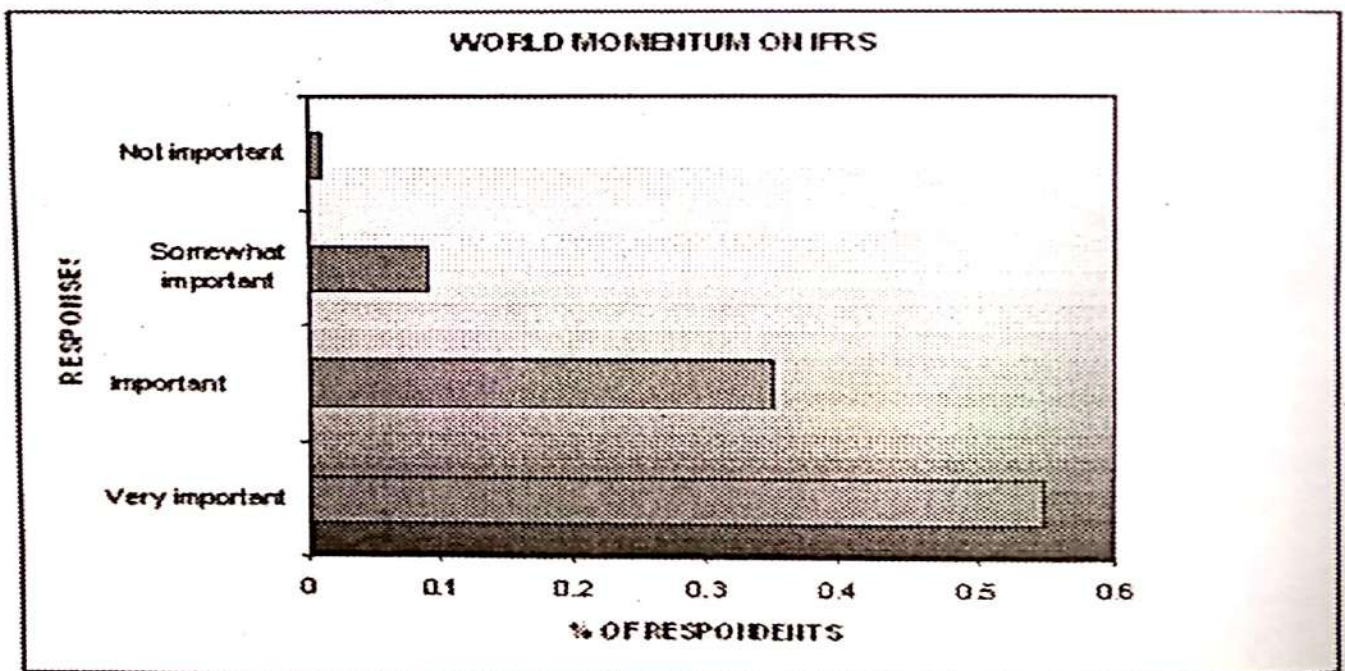
7. IFRS IN GLOBAL AND NATIONAL LEVEL : THE PRESENT SCENARIO

IFAC Survey (www.IFRS.com): In a survey conducted recently by the International Federation of Accountants (IFAC), a large majority of accounting leaders from around the world agreed that a single set of international standards is important for economic growth. Former AICPA Chairman Randy Fletchall, CPA, and AICPA President and CEO Barry Melancon, CPA, were among those surveyed. The survey depicts, --

- Of the 143 leaders from 91 countries who responded, 90 percent reported that a single set of international financial reporting standards was "very important" or "important" for economic growth in their countries.

With respect to the Importance of convergence to International Financial Reporting Standards for economic growth in their countries (out of 91 countries who responded):-

- 55 percent of respondents said IFRS adoption was "very important" to economic growth
- 35 percent said "important"
- 9 percent "somewhat important"
- 1 percent "not important".



Source : <http://www.ifac.org/globalsurvey>

Global Stance with respect to IFRS (www.trastutors.com):

1. Amongst others, countries of the European Union, Australia, New Zealand, China and Russia have already adopted IFRS's for listed Companies.
2. Canada has decided to adopt IFRS from 2011.
3. The Financial Accounting Standards Board (FASB) in the US has also agreed for convergence with IFRS by 2015.
4. The Securities and Exchange Commission (SEC) in the US has permitted filing of IFRS compliant financial statements without requiring presentation of a reconciliation statement between US GAAP's and IFRS in the near future.

Analysis of international experience confirms that more than 12,000 companies in more than 100 countries including countries of European Union (EU), Australia, New Zealand, Russia and China currently require or allow the use of IFRSs in their countries. One of the most significant elements in the convergence process is the 'Disclosure Requirements'. The FRRP (Financial Reporting Review Panel) survey reveals that many companies did not fully comply with IFRS because of extensiveness of disclosure requirements.

In 2008, world renowned accounting, auditing and consultancy firm KPMG has kick-started a survey on how the listed companies in India are prepared to transit to the International Financial Reporting Standard (IFRS), the deadline for which is set as 2011. In a press conference on September 16, 2008 Jamil Khatri, Head of U.S. GAAP and IFRS Services of KPMG, said the survey in India followed a similar one in Canada which found 75 per cent of the Canadian companies had a clear roadmap for moving over to IFRS by 2011. The result of the Indian survey was published in October, 2008. He was of the view that not more than two per cent of the Indian listed entities had any roadmap at the moment on how to reach IFRS by 2011. Asserting that many Indian companies were 'under-prepared' for a switch-over to IFRS by 2011 deadline. Mr. Khatri said several regulators and standard-setters were in play in India and "they are not getting any direction or momentum on the IFRS roadmap". He also said the time was running out for India to catch up on this issue. Mr. Khatri urged the Department of Company Affairs (DCA) to quickly spell out the road map, so that the corporate India had clarity on the issue to proceed with internal preparations. Mr. Khatri asserted that a switch-over to IFRS was a must if Indian corporates were to have access to wider international capital market more than that if India had to attract foreign institutional investment; it had to move over to IFRS so as to provide the investors comfort. (www.hinduonnet.com/halrus)

In the year 2009, Ernst and Young conducted another survey regarding Indian companies' eagerness for IFRS conversion reported that the interest among Indian companies in adopting the International Financial Reporting Standards (IFRS) is on the upswing as the Institute of Chartered Accountants of India (ICAI) and the Ministry of Corporate Affairs make noteworthy strides in moving towards IFRS. The survey reported that 79% of the respondents surveyed felt that their company would be able to meet the IFRS 2011 deadline. A majority of those interviewed said that the matter was discussed at the board/management level. The survey also pointed out that though a large chunk of the respondents have not made a timetable for the transition, the encouraging fact is that 32% of the respondents would assign resources for the same soon. More concerted action on IFRS conversion from corporates would take place now on, the survey pointed out. In the survey, they concluded that "IFRS conversion is a skilful, onerous and lengthy exercise. Experiences in other parts of the world have shown that conversion to IFRS is much more than an accounting exercise and extends to critical

business and regulatory matters. Converting to IFRS will be a significant and fundamental change for businesses. For large sized entities, the transition to IFRS could take as much as 18 months to two years. IFRS conversion, if not planned properly, would result in significant time and cost overruns, and in extreme cases, erosion of reputation for reporting incorrect numbers". (www.financialexpress.com)

Indian experience relating to convergence with IFRS is not so material as the first set of IFRS financial statements would be ready for consumption on or after March 31, 2012. Actually, IFRS financial statements would require preparation of : i) opening Balance Sheet as on April 1, 2010, and ii) comparative financial statements for the year ending March 31, 2011. Naturally, reporting enterprises would need to ensure preparedness for IFRS reporting as early as April 1, 2010. Some companies which are large in term of fundamental value or which intend to attract foreign capital might prefer to use Indian accounting standards convergent with IFRS earlier than required under the roadmap presented by the government. Some of the evidences from top ranked Indian info-tech companies (e.g. Infosys, Wipro, TCS, etc.) is important in this regard. These companies have ventured into IFRS reporting for last couple of years as the companies have strong cross border business activities including listing in the international stock exchanges. These companies voluntarily opt to apply the IFRS converged accounting standards even before April 1, 2010. Actually, early adoption of IFRS would help them in tackling the problems they would face in near future.

Regarding transition to IFRS Reporting, Infosys Technologies Limited reported that "the financial statements of Infosys technologies Limited and its subsidiaries have been prepared in accordance with IFRS. Infosys technologies Limited and its subsidiaries adopted all IFRS standards and the adoption was carried out in accordance to IFRS-1, First-time Adoption of IFRS, using April 1, 2007 as the transition date. The transition was carried out from Indian GAAP, which was considered as the previous GAAP. The effect of adopting IFRS has been summarized in the reconciliation provided." Again, the company disclosed that "the transition to IFRS reporting has resulted in changes in the reported financial statements, notes thereto and accounting principles compared to what had been presented previously." The company further stated that "the Group's financial statements for the year ending March 31, 2009 would be the first annual financial statements to comply with IFRS. All interim financial statements are also prepared in compliance with IFRS. In preparing these financial statements, the company has availed certain exemptions in accordance with IFRS-1." (www.infosys.com)

Wipro Limited similarly reported in the Statement of Compliance that "these condensed consolidated interim financial statements have been prepared in accordance with International Financial Reporting Statements (IFRS) and its interpretations as issued by the International Accounting Standard Board (IASB)." The company again disclosed that "consolidated financial statements of Wipro Ltd. computed under the IFRS GAAP along with individual business segment reports." Regarding Transition to IFRS the company stated that "the adoption of IFRS was carried out in accordance with IFRS-1 using April 1, 2008 as the transition date. IFRS-1 requires that all IFRS standards and interpretations that are effective for the first IFRS Consolidated Financial Statements for the year ended March 31, 2010, be applied consistently and retrospective for fiscal years presented. All applicable IFRS have been applied consistently and retrospectively wherever required." (www.wipro.in)

This is also a clear case of early adoption of IFRS reporting.

Tata Consultancy Services Limited has also formulated several policies relating to transition to IFRS and provided technology roadmap to IFRS conversion. (www.tcs.com and www.bdic.org.in)

On April 21, 2008 Satyam Computer Services Ltd., a leading global business and information technology services provider having consulting, systems integration, and outsourcing solutions to clients in more than 20 industries and 63 countries, announced that it has posted its audited results for Fiscal Year 2008 in accordance with the International Financial Reporting Standards, making it one of the first Indian companies to do so. (www.przoom.com/news)

Another pharmaceutical bluechip company, Dr. Reddy's Laboratory, reported that from second quarter of 2009 onwards, the company's financial statements have changed from US GAAP to IFRS in keeping with best international practices. This makes Dr. Reddy's the first Indian pharmaceutical company to adopt IFRS reporting. (www.drreddys.com)

From the above statement of companies it is elucidate that Indian companies are getting ready in good faith towards convergence with IFRS for financial reporting.

8. IFRS IN INDIAN CONTEXT : SOME DECISIVE SUCCESS ELEMENTS

As it is not feasible to completely adopt the IFRS in India at present the emphasis should clearly be on comparative success of convergence in future. But, the success of the convergence effort in India will depend on some critical ingredients, namely,

- Accounting framework in India has multiple influencers and accounting standard-setters, such as the ICAI, SEBI, Companies Act, Income-tax Authorities, and industry regulators such as the RBI, IRDA, etc. All of them need to work in tandem and see the broader picture of the proposed accounting landscape in 2011 and work towards that in a concerted manner ;
- Espousal of IFRS by approximately 5000 listed companies by 2011 would result in a significant demand for IFRS resources. There is limited availability of a large pool of trained resources. The changeover to IFRS brings about significant changes in terms of complexities of accounting standards, requiring significant use of judgment in applying new and complex requirements. To achieve the end objective of comparability in financial reporting, all of these requirements need to be understood and applied in a consistent manner by a wide group of accountants, both within the industry and the profession ;
- Several legislative changes will have to be made such as amendments to the Companies Act, the Income-Tax Act, SEBI Regulations, IRDA Regulations, etc. Further, current accounting and presentation guidance that is not in line with the IFRS requirements would need to be amended. So, adoption of IFRS is likely to have a significant impact on the financial position and financial performance of most Indian companies due to the significant differences between Indian GAAP and IFRS ;
- Any retrospective application of change in accounting policies and rectification of errors will cause considerable difficulties in the post-IFRS era. Local accounting software should be efficient enough to catch retrospective application and retrospective restatement ;

- Acceptance of IFRS requires senior management to take responsibility for the project and to demonstrate clear leadership and sponsorship throughout its execution (KPMG Report);
- Changeover squads typically need to include specialists with a broad ambit of professional background (KPMG Report).

Instead of several huddles, transition to IFRS in phase is a smart move. The transition cost for smaller companies will be much lower because large companies will bear the initial cost of learning and smaller companies will not be required to reinvent the wheel. However, this will happen only if a significant number of large companies engage Indian accounting firms to provide them support in their transition to IFRS. Fortunately, ICAI is doing a commendable job of maintaining its body of knowledge up to date and in providing training to its members in IFRS. Therefore, Indian chartered accountants are competent enough to handle the issues that will emerge in the course of transition to IFRS.

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Editorial Note :

On 14 January 2011, ICAI posted on its website near-final exposure drafts (near-final ED) of Indian Accounting Standards converged with International Financial Reporting Standards (IFRS). On 25 February 2011, the Ministry of Corporate Affairs (MCA), through a press release [7/2011, No.1/1/2009-IFRS], notified 35 near-final ED of Indian Accounting Standards after making certain amendments (IND AS). These are: IND ASs 1, 2, 7, 8, 10, 11, 12, 16, 17, 18, 19, 20, 21, 23, 24, 27, 28, 29, 31, 32, 33, 34, 36, 37, 38, 39, 40, 101, 102, 103, 104, 105, 106, 107 and 108. However, MCA's press release states that the date of implementation of the IND AS will be notified at a later date, which was previously expected to be 1 April 2011.



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Relevance of Value Added Reporting in Financial Disclosure of a Firm : A Critical Study

Niranjan Mandal and Suvarun Goswami ***

ABSTRACT : The concept of value added plays a vital role in financial disclosure of a firm. In the present study an attempt has been made to relate value of share based on rate of return to the component of value added return by means of a tri-variate regression analysis comparable to share market price based rate of return, for a time period covering nineteen years, their rates of return calculated were sought to be regressed on two sub-components of value added, one representing owner's interest and the other representing combined interests of employees, providers of loan capital and the government. As could be expected the second sub-component of the value added showed a negative value in the regression coefficient while the former sub-component developed a positive regression coefficient. It could be termed as tautology but the point to be noted is that relative contributions of the two components, whatever might be the signs, towards the book value based rate of return, could be identified and evaluated. The disclosure of the information relating the two components of value added and their impact on rate of return, howsoever measured, could be used to point out the weak areas deserving greater attention from concerned stakeholders and more responsible attitude towards the well being of the corporate entity for the benefit of all concerned. Thus, the results of the study shown in this paper add to the growing empirical evidence on the market

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relevance of value added. It is an important accounting policy issue of the desirability of disclosing the underlying data needed to compute value added variables.

Key Words : *Value Added, GVA, NVA,*

1. INTRODUCTION

A challenge to the role of earnings concerns the role of value added data when included in financial reports as suggested by the American Accounting Association, Committee on Accounting and Auditing Measurement (1991) and most of the international accounting research literature (Ahmed 1993). Value added represents the total return of a firm, earned by all providers of capital, plus employees and the government. It includes earnings as the return to shareholders plus other components as the return to other stakeholders: the government, the bondholders and the employees. The informational content of earnings is well established in the literature (Ahmed 1993). The purpose of the study shown in this paper is to extend the relevance findings by assessing the incremental information content of the disclosure of non-earnings components of value added released concurrently with annual earnings.

We have tried to establish a linear relationship between annual return on stock (based on the change in book value of stock and annual dividend declared) and the earnings and non-earnings components of net value added of a firm over a long period of time with the help of least squares method and observe the divergent trend of annual stock returns over the period of time in relation to earnings and non-earnings components of net value added. From this analysis we have also examined the relevance of value added reporting in financial disclosure of a firm in addition to the usually available information.

2. DEFINITIONAL ARRANGEMENT

Value added represents the total wealth generated by the efforts of all providers of capital, plus employees and the government. It can be obtained by the following rearrangement of the income statement :

$$\text{Gross Value Added (GVA)} = S - M = W + I + D + E + T \dots\dots\dots(1)$$

$$\text{Net Value Added (NVA)} = S - M - D = W + I + E + T \dots\dots\dots (2)$$

Where, E = earnings, S = sales revenue,

M = Purchase of raw materials and services,

W = Wages, I = Interest, D = Depreciation, and T = Taxes

Equation (2) can also be rearranged as follows :

$$NVA = S - M - D = E + (W + I + T) \dots\dots\dots (3)$$

$$\text{Or, } NVA = E + NE \dots\dots\dots (4)$$

Where,

$NVA = S - M - D =$ Net Value Added

$NE = W + I + T =$ non earnings components of net value added

$E =$ Earnings Component of net value added.

Equation (4) shows the net value added (as a measure of wealth) which is equal to the earnings (E) plus the non-earnings (NE) components.

2.1. Estimation Model

On the basis of the aforesaid rearranged definition of NVA (Equation 4) we have tried to establish a linear relationship between annual returns on stock and earnings and non-earnings components of net value added (NVA) with the help of return model. The return model may be stated as follows :

$$Y_t = a + b x_1 + c x_2 + e_t \dots\dots\dots (5)$$

$$\text{Here } Y_t = \frac{(P_t - P_{t-1}) + d_t}{P_{t-1}} \times 100$$

Where, $P_t =$ Book value of stock at the Period t

$P_{t-1} =$ Book value of stock at the period (t-1)

$d_t =$ Dividend declared at the period t

$Y_t =$ Annual return on Stock at the period t

$x_1 = \frac{E_t}{N_t} =$ Earnings component per stock

$x_2 = \frac{NE_t}{N_t} =$ Non-earnings component per stock

$e_t =$ residual error

$N_t =$ Number of equity shares,

'a', 'b', and 'c' are three parameters which can be determined by solving the following three normal equations :

$$\sum y = na + b\sum x_1 + c\sum x_2 \dots\dots\dots(i)$$

$$\sum x_1y = a\sum x_1 + b\sum x_1^2 + c\sum x_1x_2 \dots\dots\dots(ii)$$

$$\sum x_2y = a\sum x_2 + b\sum x_1x_2 + c\sum x_2^2 \dots\dots\dots(iii)$$

After solving the above three normal equations we shall get the values

$$a = a^*$$

$$b = b^*$$

and $c = c^*$

Putting these respective values of 'a', 'b' and 'c' in equation (5) we can easily get the required estimated regression equation of y on x_1 and x_2 as follows :

$$Y_t = a^* + b^*x_1 + c^*x_2 \dots\dots\dots (6)$$

Using equation (6) we may find out precisely the estimated value of 'y' with the given value of x_1 and x_2 over the period t from which we can portray divergent trend of y. This estimated values of y can be compared with the actual values of y. The difference between the actual figure of y and the estimated y is termed as residual error of estimate.

In this way we can draw a best fitting straight line of y on x_1 and x_2 through the scattered dots (Y_t, x_{1t}, x_{2t}) on a 3 -Dimensional graph to show the required divergent trend.

For the purpose of the study relevant data available in the published annual reports of BPC Ltd. over the period of 1978-79 to 1996-97 has been used after making some rearrangements and readjustments required to fit the purpose.

2.2. Assumption

We make the following assumptions in our analysis :

- i) Market is uniquely composed of equity shares.
- ii) It is expected that the annual return on stock for each year will be positively related to earnings and negatively related to non-earnings component of net value added.

3. METHODOLOGY

In this paper secondary data i.e. published financial statements of Bharat Petroleum Corporation (BPC) Ltd. (over a period of 19 years i.e. from 1978-79 to 1996-1977) has been used. The available data and information collected from the Annual Reports of the said company has been systematically arranged according to the necessity of our analysis. For the purpose of our analysis, we have taken the help, of some statistical and managerial tools like Tri-variate Regression analysis Time series analysis, etc.

Case study

Table-A

Calculation of different required Components using the break ups shown in the Annual report of BPC Ltd. over the Period of 19 years (i.e. from 1978-79 to 1996-97)

YEAR

Components (In million Rs.)	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
1. Sales Revenue (s)	8284	10727	15124	18516	20563	23326
2. Purchase of Materials & Services (M)	7521	9889	14116	17393	19266	21461
3. Gross Value Added (GVA = S-M)	763	838	1008	1123	1297	1865
4. Gross Value Added Applied to..						
i) Wages (W)	469	508	614	638	747	1116
ii) Interest (I)	3	5	38	67	96	133
iii) Depreciation (D)	45	77	125	122	154	424
iv) Earnings available to owners i.e. after tax profit (E)	87	109	104	141	135	157
v) Tax (T)	159	139	127	155	165	35
Total :	763	838	1008	1123	1297	1865
5. Non-earnings (NE=W+I+T)	631	652	779	860	1008	1284
6. Pre-Bonus Earnings Per Share (in Rs.) (EPS = x_1 , say)	3.77	4.73	4.68	6.12	6.07	7.01
7. Number of ordinary Share held (N=E/EPS)	23	23	23	23	23	23
8. Dividend (DV)	18	18	20	20	00	00
9. Dividend Per Share $d = DV/N$ (in Rs.)	0.78	0.78	0.87	0.87	00	00
10. Non-earnings Per share (NE/N) = x_2 , say (in Rs.)	27.43	28.35	33.86	37.39	43.83	55.83
11. Annual Rate of return based on book Value of Share and Dividend per Share $\left[y_t = \frac{(p_t - p_{t-1}) + d_t}{p_{t-1}} \times 100 \right] \%$	22.05	23.51	19.32	21.81	18.28	20.09

Source: Published Financial Statements of Bharat Petroleum Corporation Ltd.

Table-A continued

Calculation of different required Components using the break ups shown in the Annual report of BPC Ltd. over the Period of 19 years (i.e. from 1978-79 to 1996-97)

Components (In million Rs.)	YEAR					
	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90
1. Sales Revenue (s)	26642	31650	44878	50797	54762	60816
2. Purchase of Materials & Services (M)	24407	28728	41473	46924	49768	56003
3. Gross Value Added (GVA = S-M)	2235	2922	3405	3873	4994	4813
4. Gross Value Added Applied to ..						
vi) Wages (W)	1305	1150	1562	1970	2570	1803
vii) Interest (I)	189	307	342	338	334	314
viii) Depreciation (D)	533	776	816	635	789	1030
ix) Earnings available to owners i.e. after tax profit (E)	138	613	603	780	1043	1226
x) Tax (T)	70	76	82	150	258	440
Total :	2235	2922	3405	3873	4994	4813
5. Non-earnings (NE=W+I+T)	1564	1533	1986	2458	3162	2557
6. Pre-Bonus Earnings Per Share (in Rs.) (EPS = x_1 , say)	6.07	22.01	21.71	28.01	37.45	24.51
7. Number of ordinary Share held (N=E/EPS)	23	27	27	27	27	50
8. Dividend (DV)	23	39	39	56	56	100
9. Dividend Per Share d = DV/N (in Rs.)	1.00	1.45	1.45	2.07	2.07	2.00
10. Non-earnings Per share (NE/N) = x_2 , say (in Rs.)	68.00	56.78	73.55	91.04	117.11	51.14
11. Annual Rate of return based on book Value of Share and Dividend per Share	12.87	24.81	34.12	45.52	31.21	-28.55
$\left[y_t = \frac{(p_t - p_{t-1}) + d_t}{p_{t-1}} \times 100 \right] \%$						

Source : Published Financial statements of Bharat Petroleum Corporation Ltd.

Table-A continued

Calculation of different required Components using the break ups shown in the Annual report of BPC Ltd. over the Period of 19 years (i.e. from 1978-79 to 1996-97)

Components (In million Rs.)	YEAR						
	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
1. Sales Revenue (s)	73951	88828	102349	115203	133863	150234	181452
2. Purchase of Materials & Services (M)	67131	80965	93463	105942	118241	130679	160795
3. Gross Value Added (GVA = S-M)	6820	7863	8886	9261	15622	19555	20657
4. Gross Value Added Applied to ..							
xi) Wages (W)	3332	3835	4151	3805	8004	10454	10882
xii) Interest (I)	372	442	383	467	437	394	821
xiii) Depreciation (D)	961	1031	1431	1365	2603	2179	2258
xiv) Earnings available to owners i.e. after tax profit (E)	1278	1485	1701	2154	2888	3858	4326
xv) Tax (T)	877	1070	1220	1470	1690	2670	2370
Total :	6820	7863	8886	9261	15622	19555	20657
5. Non-earnings (NE=W+I+T)	4581	5347	5754	5742	10131	13518	14073
6. Pre-Bonus Earnings Per Share (in Rs.) (EPS = x_1 , say	25.56	29.69	34.01	43.08	57.77	77.16	86.52
7. Number of ordinary Share held (N=E/EPS)	50	50	50	50	50	50	50
8. Dividend (DV)	100	150	165	165	495	495	495
9. Dividend Per Share $d=DV/N$ (inRs.)	2.00	3.00	3.30	3.30	9.90	9.90	9.90
10. Non-earnings Per share (NE/N) = x_2 , say (in Rs.)	91.62	106.94	115.08	114.84	202.62	270.36	281.46
11. Annual Rate of return based on book Value of Share and Dividend per Share $\left[y_t = \frac{(P_t - P_{t-1}) + d_t}{P_{t-1}} \times 100 \right] \%$	23.39	22.36	21.33	22.87	-55.32	34.73	28.97

Source: Published Financial statements of Bharat Petroleum Corporation Ltd.

TABLE-B

Calculation for the determination of parameters as shown in equation (5) and estimated value of y over the period of 1978-79 to 1996-97

Sl. No.	Year	Y_t (%) (Actual)	X_1 (in Rs.)	X_2 (in Rs.)	X_1Y	X_2^2	X_1^2	X_2Y	X_1X_2	Estimated Y_t (%)	Residual Error $e = y$ (actual) - y (Estimated) %
1	1978-79	22.05	3.77	27.43	83.13	752.40	14.21	604.83	103.41	19.73	2.32
2	1979-80	23.51	4.73	28.35	111.20	803.72	22.37	666.51	134.09	19.71	3.80
3	1980-81	19.32	4.68	33.86	90.42	1146.50	21.90	654.17	158.46	19.57	(-) 0.25
4	1981-82	21.81	6.12	37.39	133.48	1398.01	37.45	815.47	228.82	19.49	2.32
5	1982-83	18.28	6.07	43.83	110.96	1921.07	36.84	801.21	266.04	19.32	(-) 1.04
6	1983-84	20.09	7.01	55.83	140.83	3116.98	49.14	1121.62	391.37	19.02	1.07
7	1984-85	12.87	6.07	68.00	78.12	4624.00	36.84	875.16	412.76	19.07	(-) 6.20
8	1985-86	24.81	22.01	56.78	546.06	3223.96	484.44	1408.71	1249.73	19.08	5.73
9	1986-87	34.12	21.71	73.55	740.74	5409.60	471.32	2509.53	1596.77	18.66	15.46
10	1987-88	45.52	28.01	91.04	1275.01	8288.28	784.56	4144.14	2550.03	18.26	27.26
11	1988-89	31.21	37.45	117.11	1168.81	13714.75	1402.50	3655.00	4385.76	17.65	13.56
12	1989-90	28.55	24.51	51.14	699.76	2615.30	600.74	1460.04	1253.44	19.24	9.31
13	1990-91	23.39	25.56	91.62	597.84	8394.22	653.31	2142.99	2341.80	18.23	5.16
14	1991-92	22.36	29.69	106.94	663.86	11436.16	881.50	2391.18	3175.05	17.86	4.50
15	1992-93	21.33	34.01	115.08	725.43	13243.41	1156.68	2454.66	3913.87	17.68	3.65
16	1993-94	22.87	43.08	114.84	985.24	13188.23	1855.89	2626.39	4947.31	17.74	5.13
17	1994-95	55.32	57.77	202.62	3195.84	41053.86	3337.37	11208.94	11705.36	15.60	39.72
18	1995-96	34.73	77.16	270.36	2679.77	73094.53	5953.67	9389.60	20860.98	13.99	20.74
19	1996-97	28.97	86.52	281.46	2506.48	79219.73	7485.71	8153.90	24351.92	13.77	15.20
	TOTAL	343.37	525.93	1867.23	8741.78	25286.44	286644.71	31746.09	84026.97		

4. OBSERVATIONS AND FINDINGS

From the calculation so far we can obtain the following three normal equations :

$$343.37 = 19 a + 525.93 b + 1867.23 c \dots\dots\dots (iv)$$

$$8741.78 = 525.93 a + 25286.44 b + 84026.97 c \dots\dots\dots (v)$$

$$31746.09 = 1867.23 a + 84026.97 b + 286644.71c \dots\dots\dots (vi)$$

Solving these three normal equations we get $a = 20.4$, $b = 0.006$ and $c = -0.0254$ and putting the value of 'a', 'b' and 'c' in equation (6) we have

$$Y = 20.4 + 0.006 x_1 - 0.0254 x_2 \dots\dots\dots (vii)$$

The estimated values of y over the period of 19 years (i.e. from 1978-79 to 1996-97) have been shown in Table B from which we observe that there is more or less a declining tendency of annual return on stock of BPC Ltd. over the period of 1978-79 to 1996-97 as against the increasing effect on non-earning components of value added over the same period.

The perception of the market about the well being of the company relates more closely to the earnings component of the value added. A study based on rate of return calculated from change in market price of share and dividend has shown this relationship. In this study, in the absence of share price data, net asset backing based value of share has been used as the basis of rate of return. Still the same trend has been observed.

Relative rise in non-earnings component to value added, in the form of wages, interest and taxes has an adverse effect on the ownership interest of the company. Thus the results arrived at are expected. The benefits lie in already delineating the rate of two components.

5. CONCLUDING REMARKS

For the sake of argument, it may be said that with higher labour productivity, even relatively larger increase in non-earning component could result in still larger increase in sales value and thus value added which could lead to greater rise in net asset-backing per share and thus opposite trend in y_t . The present age is all set for greater transparencies. The disclosure of the information relating the two components of value added and their impact on rate of return howsoever measured could be used to point out the weak areas deserving greater attention from concerned stakeholders and more responsible attitude towards the well being of the corporate entity for the benefit of all concerned. Thus, the results of the study shown in this paper add to the growing empirical evidence on the market relevance of value added. It is an important accounting policy issue of the desirability of disclosing the underlying data needed to compute value added variables. The current disclosure system does not mandate the disclosure of the information needed to compute the value added. The supplementary financial statements are only the way in practice for

introducing and gaining experience with new kinds of information. The value added concept is an example of the type of innovation in need of experimentation. More research on its relevance is also needed.

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Assistance to Small Engineering Enterprises of Howrah, A District of West Bengal - A Case Study

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ABSTRACT : Small Enterprises (SEs) {formerly Small Scale Industries (SSIs)} have been contributing significantly towards developing Indian economy in terms of production, employment generation, export promotion, gross value addition, balanced regional development etc. But distressingly enough, SEs, the angel of Indian economy have continuously been suffering from several avoidable and unavoidable contemptible deficiencies in different areas, which bound them to slip into the darkness of sickness. Among different regions of India, the eastern region especially West Bengal (WB) holds the most abominable situation in this context. Engineering sector seems to be the main input of industrial development of any country, producing valuable products, mainly capital in nature. Small engineering sector, in this connection, contains more importance for higher productivity at small capital outlay. Responding to the deficiencies and difficulties faced by small engineering units of Howrah, the respective authoritative institutions have implemented several promotional assistance programmes for the concerned SEs. The present paper aims at reviewing the effectiveness of the assistance programmes of Government of WB provided to the small engineering units of Howrah through different authoritative institutions.

Key Words: *SEs, Sick SEs, West Bengal, Howrah, Engineering, MSME-DI, NSIC, Bank.*

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1. INTRODUCTION

Small Enterprises (SEs) {formerly Small Scale Industries (SSIs)}, renamed as per Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, are claimed to be the pathfinder of economic and industrial development of any nation, especially developing one like ours with their constant astounding performance in the fields of production, export promotion and employment generation (Rs.3,03,629.22 crore, Rs.27,561.86 crore and 22,72,039 respectively¹). In addition thereto, the extensive promotional attitude of SEs in different avenues declares the sector as a well-capable one in resolving different concomitant hindrances of Indian socio-economic environment like poverty, unemployment, social and regional unrest, disparity, tension etc.

Nevertheless, SEs are not found to be free from the bureaucratic production process; traditional mechanical and technical methodology; irrational entrepreneurial planning; lack of knowledge and managerial skill of the entrepreneurs; inadequate and improper assistance programmes, etc. These uneven situations have rigorously been thrusting SEs into the moribund condition - sickness and ultimately forcing them to down their shutters permanently which resultantly hampers all the beneficiary effects of SEs in economy. In India, sickness in SEs spreads its roots in all sectors and regions among which the eastern part (13.33 percent sick SEs in India¹) especially the state of West Bengal (WB) exhibits the most abominable situation mainly for the deteriorating trend in the growth rate of the performance of SEs in different dimensions like production (-39.01 percent¹), employment generation (-24.24 percent¹) and export promotion (-81.65 percent¹) from 2005-2006 to 2006-2007 and rising number of sick SSIs in its district Howrah {15.62 percent sick/incipient sick SSIs² (second worst in WB)³ and 20.17 percent incipient sick SSIs (worst in WB)³}, the former Birmingham of the east. Therefore, in order to safeguard SEs from the awful circumstances and also to confirm prosperity in them, WB State Ministry has been framing and reframing several promotional and progressive developmental schemes and policies in accordance with the declaration of Central Government. But in spite of the constant productive focus of concerned Ministries to accelerate SEs of WB, some unavoidable internal and/or external circumstances obstruct the successful promotion and practice of the policy in all sectors and districts of WB and thus bound SEs to stand long leg behind their expected position.

The present paper aims at concentrating on the assistance of the concerned authoritative institutions of WB Government in uplifting SEs; evaluating the assistance and present promotional policies of the authoritative institutions for SEs with special reference to small engineering units of Howrah and providing some suggestions for further development in this respect. In view of the above mentioned objectives, the remainder parts of the article have been designed as follows:

¹ Office of the Development Commissioner, Ministry of MSE, All India Fourth Census Report, 2006-2007.

² SSIs with erosion of net-worth by more than 50 percent or delay in repayment of institutional loan by more than 12 months or decline in gross output over three consecutive years are considered to be incipient.

³ Directorate of Cottage and Small Scale Industries, All India Third Census Report, 2001-2002. Here, as the state-wise Fourth Census Report of India (2006-2007) has not yet been released, the data of Third Census Report have been used. At that time, SEs were recognised as SSIs including tiny (now Micro) units.

Section 2: SEs and different modes of assistance in WB;

Section 3: A Study of assistance to small engineering units of Howrah;

Section 4: Evaluation of the assistance of authoritative institutions to Small Engineering Units of Howrah;

Section 5: Conclusion and Suggestions.

2. SEs AND DIFFERENT MODES OF ASSISTANCE IN WB

The extreme over-populace, culturally and ethnically diversified state, WB though is basically and foremostly dependent on agriculture for its socio-economic development, it also emphasises on enterprises especially on the small ones, which spread over the districts of Kolkata, Howrah, South 24 Parganas, Hooghly, Siliguri and are diffused into different sectors like engineering, automobiles, chemical, jute, cotton textile, tea etc. Today, the performance of SEs of WB in the field of production, employment generation and export promotion enables the state to hold an appraising predominant position in India.

But distressingly enough, WB is simultaneously considered as one of the most pointable sickness-prone state of India in respect of SEs (5.63 percent sick/incipient sick, Office of the Development Commissioner, Ministry of MSME, All India Fourth Census Report, 2006-2007) which standstills the economic progress of the very state and calls for social tension. Therefore, with a view to astonishing and lengthening the promotion and profitable existence of the very sector in WB, the respective authoritative institutions of the State have framed and implemented several policies in different fields.

Now, before exhibiting the assisting programme of WB State Government to SEs, it will be preferable to specify the concept of SEs in India.

The trendy structural concept of SEs has drastically been moved in 2006, when the first single comprehensive legislation MSMED Act, 2006 has been evolved, considering both the medium and the tiny units under the same umbrella. The new Act has incorporated the amendments, e.g. (i) introduction of new nomenclature like enterprise and micro, replacing the words industry and tiny respectively, (ii) declaration of new divisional criteria of enterprises on the basis of economic activities -manufacturing and servicing and (iii) formation of a new Ministry - Ministry of Micro, Small and Medium Enterprise (MSME), merging two separate ministries - Ministry of SSI and Ministry of Agro and Rural Industries (ARI).

Manufacturing MSMEs are defined in terms of investment in plant and machineries (excluding cost of pollution control, research and development, industry safety devices and other notified items) to the extent of Rs.25 lakh for Micro, Rs. 5 crore for Small and Rs.10 crore for Medium Enterprises, while service rendering MSMEs are defined in terms of investment in equipment, maximum of Rs.10 lakh for Micro, Rs.2 crore for Small and Rs.5 crore for Medium Enterprises.

The assistance programmes of the authoritative institutions to SEs have been discussed here in two subsections :

2.1 Assistance to progressive (non-sick) SEs in WB

2.2 Assistance to sick viable SEs in WB

2.1 Assistance to progressive (non-sick) SEs in WB

State Government of WB, through its respective authoritative institutions (Figure - 1), has introduced several promotional assistance programmes in the fields like Finance, Production, Technology, Marketing and Human Resource Development. In this context, the Micro and Small Enterprises (MSEs) must ensure their eligibility for availing of the incentives through filing of Entrepreneurship Memorandum (EM)(Parts I and/or II), alongwith a detailed feasibility report for the specific period and certificate of General Manager (GM) of District Industries Centre (DIG). Besides, they have to secure the project approval by the commercial banks or the State Financial Corporation (SFC) or DIG. The entrepreneurs should submit application in prescribed forms to the GM of DIG on commencement of commercial production for release of incentive under the scheme and for registration of the unit.

2.1.1. Financial and Fiscal Assistance

The financial assistance of banks and/or other financial institutions (FIs) to SEs in WB can be divided into (a) Long-term and Short-term Financial Assistance and (b) Fiscal Assistance.

Long – term and Short – term Financial Assistance are provided by the following institutions:

- Commercial Banks
- West Bengal Financial Corporation (WBFC)
- DICs

Financial Assistances in different modes are as follows :

(i) investment in the securitised assets of SEs, (ii) assistance in Medium Term Loan and Working Capital (WC) Finance at concessional terms and conditions, (iii) implementation of Credit Link Capital Subsidy Scheme (CLCSS) along with Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) to facilitate technical upgradation at 15 percent capital subsidy, (iv) introduction of venture capital financing, (v) enhancement of the limit of composite loan to Rs.1 crore (previously was Rs.50 lakh) for both WC and Term Loan (TL) from Single Window Scheme at concessional rate of interest (8 percent upto Rs.5 lakh and 10 percent for more than Rs.5 lakh to Rs.25 lakh), (vi) providing of need-based WC requirement less margin of 25 percent or upto Rs.20 crore at 9 percent for without refinance or 10 percent for with refinance rate of interest (vii) granting of collateral securities around 10 percent-20 percent of the Working Capital Term Loan (WCTL) and (viii) sanctioning of margin money to the extent of 10 percent (20 percent for SC, ST, Physically Challenged, Ex-servicemen, Industry Co-operatives) of the project cost at 6.5 percent (4 percent for timely repayment) rate of interest, provided that the promoters contribution will not exceed 25 percent of the project cost and the amount of such loan will not exceed Rs.5000 X number of employees of the respective units.

Fiscal Assistance is guaranteed by the following authoritative institutions :

- DICs
- Gram Panchayet, Municipality or Notified Authority
- Commercial Tax Office
- Commissioner of Central Excise
- Zilla Parishad/ Notified Area Development Authority
- Directorate of Fire Service
- Deputy Director, Minister of Fruits and Vegetable Processing Industry, Government of

India

- Director, Drug Control
- Chief Inspector of Factories/Labour Commissioner
- Urban Development Department
- Divisional Forest Officer
- Controller of Explosive
- Directorate of Electricity
- District Controller of Food and Supply
- Directorate of Employees' State Insurance (ESI)
- Chief Inspector of Boiler

The Fiscal supports are as follows :

(i) Non-Obligation Certificate (NOC) on Pollution aspect, Consent to Establish (COE), Consent to Operation, (ii) Provisional Certificate (PC), Eligibility Certificate (EC), Registration Certificate of Sales Tax and Professional Tax Certificates, (iii) Central Excise registration and clearance certificate to the manufacturing enterprises within the specified turnover limit.

2.1.2. Marketing Assistance

The institutions providing marketing assistance to SEs in WB are as follows :

- West Bengal Small Industries Development Corporation (WBSIDC)
- Micro, Small and Medium Enterprises - Development Institute (MSME-DI), Kolkata
- West Bengal State Export Promotion Society (WBSEPS)
- Directorate of MSEs, WB
- Central Engineering Organisation, Howrah
- National Small Industries Corporation (NSIC) Ltd.
- Small Industries Development Organisation (SIDO)
- Export-Import Bank (EXIM Bank)
- DICs

2.1.3. Technical Assistance

The institutions providing technical assistance to SEs in WB are as follows:

- MSME-DI, Kolkata
- NSIC - Technical Service Centre (TCS), Howrah

2.1.4. Training Assistance

The following institutions are providing training assistance to SEs in WB :

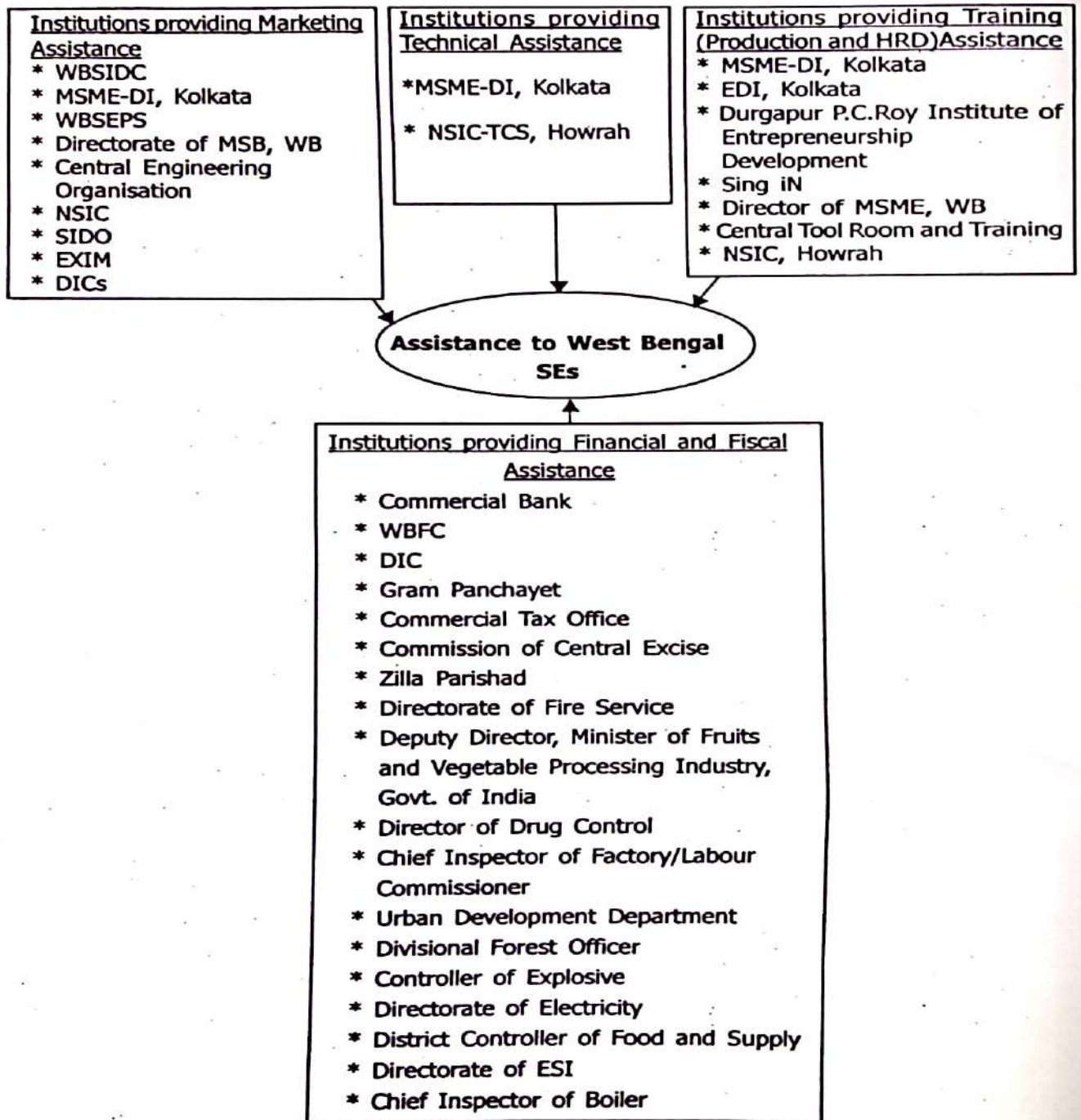
- MSME-DI, Kolkata
- Enterprise Development Institute (EDI), Kolkata
- Durgapur P.C. Roy Institute of Entrepreneurship Development
- Sign-iN (Institute of Management and Technology)
- Directorate of MSEs, WB
- Central Tool Room and Training
- NSIC, Howrah

2.1.5. West Bengal Incentive Scheme (WBIS) 2007 for MSEs

Government of WB has initiated special incentive scheme - WBIS on 10th June, 2007 for all manufacturing MSEs to be set up or expanded on or after 1st April 2007 (Memo Number 3 19/MSET/O/C-III/15 S - 12/ 2005 of WBIS, 2007 for MSEs). The scheme, classified separately for all districts under four different areas like Group A (Kolkata Municipal Corporation), Group B {North 24 Parganas and South 24 Parganas (excluding the area under the jurisdiction of KMCA and the Sundarban area), Howrah, Hooghly, Burdwan, Nadia and Purba Midnapur}, Group C (Murshidabad, Birbhum, Malda, Jalpariguri, Darjeeling) and Group D (Purulia, Bankura, Paschim Medinipur, Uttar Dinajpur, Dakshin Dinajpur, Cooch Behar and Sundarban Areas of South and North 24 Parganas) will be in force for five years ending 31st March 2012. WB State Government declares several authoritative institutions to represent its assistance to SEs in different fields. No incentive will be granted to any enterprise set up in the area under Group A except to the extent provided in the scheme. While the eligible SEs (except Group A) will be entitled to the following incentives under WBIS 2007 like :

- State Capital Investment Subsidy 15 percent, 17 percent or 20 percent of the Fixed Capital Investment;
- Incentives to the extent of 10 percent on State Capital Investment Subsidy, interest subsidy, reimbursement of electricity charges, reimbursement of Employees' State Insurance (ESI), Employees' Provided Fund (EPF) etc. for SEs, owned by women or SC/ST or self help group;
- The interest subsidy to the extent of 25 percent of the annual interest liability on the term loan borrowed from a commercial bank for 6 years, 8 years or 10 years respectively of SEs for three respective areas of Group B, Group C and Group D;

**Figure 1 : WB Authoritative Institutions providing assistance to SEs
In different avenues**



- Waiver of electricity duty, reimbursement of electricity charges @30 percent for a period of 5 years from commencement of production;
- Reimbursement of 75 percent expenditure incurred by SEs for ESI and EPF for 6 years, 8 years and 10 years respectively for three areas at some specified conditions;
- Refund of stamp duty and registration fee to the extent of 50 percent or 60 percent;
- Subsidy of the investment of SEs using piped gas for manufacturing to the extent of 80 percent subject to a limit of Rs.10.00 lakh
- Reimbursement of expenditure for installation of Pollution Control Device certified by approved institutions to the extent of 50 percent subject to a limit of Rs.5 lakh.

2.2. Assistance to sick viable SEs in WB

SEs may be said to have become sick, if any of their borrowal accounts remains Non Performing Asset (NPA) at least for 3 months or if there is erosion in the networth due to accumulated losses to the extent of 50 percent of its networth, excepting the condition of willful mismanagement (Chakraborty Committee Report, June 18, 2007). Here, SEs may be regarded as potentially viable if they would be in a position to pay back the relief package (spreading over maximum for 5 years) within 7 years from the implementation of the said package without any concession.

The guidelines on various parameters on reliefs and concessions of RBI given to viable sick SEs are -

- (i) Waiving and funding of penal Interest Dues on Cash Credit and TL
- (ii) Funding of WCTL
- (iii) Financing of Cash Losses
- (iv) Lending of WC at concession
- (v) Contingency Loan Assistance for rehabilitation
- (vi) Funds for Start-up Expenses and Margin for WC for rehabilitation

As per RBI guidelines, promoters of sick viable SEs should contribute at least 20 per cent of the rehabilitation package of the concerned units of which at least 50 per cent should be brought in immediately and the balance within six months. Commercial banks in this regard, incorporate a Right of Recompense clause in the sanction letter of the rehabilitation package of sick SEs.

3. A STUDY OF ASSISTANCE TO SMALL ENGINEERING UNITS OF HOWRAH

To verify the effectiveness and practicability of the assistance programmes of authoritative institutions to small engineering sector of Howrah, a study has been conducted through a primary survey from June 2009 to September 2010 of 262 small engineering (light) urban units (registered) of Howrah (enlisted in DIC, during 2000-2001 to 2008-2009). The sample units were

selected randomly (simple random sampling method) out of 318 total population of the same category of units. The data were collected through administering questionnaire with interview. Here, it must be specified that the surveyed sample units have taken assistance from MSME-DI, NSIC, Commercial Banks among all the government assisting institutions.

It may be mentioned in this connection that :

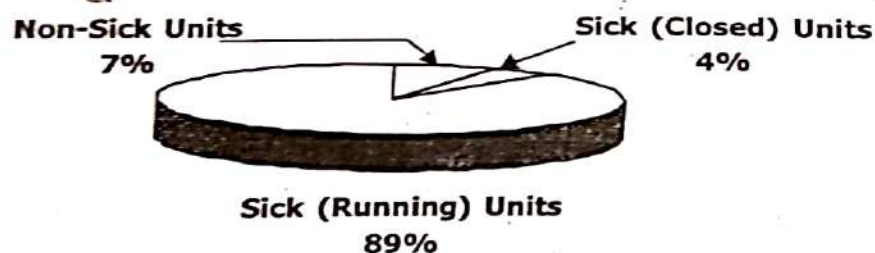
- Only registered and urban SEs belonging to the small engineering (light) sector in the district of Howrah of WB have been selected for primary survey, keeping in mind the time and resource constraints. -
- Information necessary for the study have been collected administering questionnaire among the entrepreneurs of the sample units. The authenticity of such information cannot be verified due to nonavailability of any written documents relating to such information.

Here, as per the RBI's Guidelines (Chakraborty Committee Report, June 18, 2007), some assisted units were identified as sick, while some were non-sick.

3.1. Profile of the units surveyed

Among 262 sample-surveyed units (82.39 percent of total 318 units), 11 units (4.20 percent) had already been closed and detected as sick as per RBI Guidelines. Here, the perceptions of the entrepreneurs of the said 11 units could not be recorded due to their non-availability in the premises. Therefore, 251 units (262 - 11) (95.80 percent) constitute the running sample units, out of which 232 units (92.43 percent) were detected as sick (running) SEs as per concerned Guidelines. Pie Diagram - 1 reflects the proportion of non-sick, sick running and sick closed surveyed sample units¹.

Pie Diagram - 1
Proportion of Non-Sick, Sick Running and Sick Closed Surveyed Sample Units



¹ Here, the term 'surveyed sample units' means surveyed sample sick running units, as the questionnaire has provided only to the sick running units and information from the sick closed units could not be collected.

3.2. Results of Primary Survey

3.2.1. Ownership Patterns of the surveyed sample units (Table 1)

Table - 1 : Ownership Patterns of the Surveyed Sample Units

Ownership Patterns	Number of Sick Viable Units as Identified			Number of Sick Non-Viable Units as Identified by RBI's Guidelines ¹	Non-sick	Total Number of Units Surveyed
	Only by Bank	Only by DIC	By both Bank and DIC			
SP	38	36	6	93	9	182
Pt	19	–	–	24	7	50
Pvt.	–	10	–	6	3	19
Total	57	46	6	123	19	251

Source: Primary Survey (June 2009 - September 2010)

Note: SP = Sole Proprietorship, Pt = Partnership, Pvt. = Private Limited Company, DIC = District Industries Centre.

3.2.2. Number of years for which the enterprises are in operation i.e., age of the enterprises (Table 2)

Table - 2 : Age of the Surveyed Sample Units

Ownership Patterns	Period of Operation					Total
	Less than 5 years	5 years to 10 years	10 years to 15 years	15 years to 20 years	20 years and above	
SP	44	56	53	17	12	182
Pt	4	8	22	9	7	50
Pvt.	2	6	5	3	3	19
Total	50	70	80	29	22	251

Source : Primary Survey (June 2009 - September 2010)

¹ Non-viable units would not be in a position to pay back the relief package under the rehabilitation programme (spreading over maximum for 5 years) within 7 years from the implementation of the said package.

3.2.3. Assistance taken by the surveyed sample units at initial and on recurring basis

3.2.3.1. Initial and Recurring Assistance to the units (Table 3)

Table-3 :

Assistance (Initial and Recurring) received by the Surveyed Sample Units

Ownership Patterns	Initial Assistance in					Recurring Assistance in				
	F	Pr	Te	M	HRD	F	Pr	Te	M	HRD
SP	90	59	25	27	13	6	8	5	13	2
Pt	34	25	-	-	-	3	4	4	4	3
Pvt.	6	-	10	-	-	2	-	-	3	-
Total	130	84	35	27	13	11	12	9	20	5

Source : Primary Survey (June 2009 - September 2010)
 F = Finance, Pr = Production, Te = Technology, M = Marketing, HRD = Human Resource Development

3.2.3.2. Assessment of the initial assistance to the units (Table 4)

According to the Table - 4, among the total assisted units taking assistance from authoritative institutions initially in Finance (130 units), Production (84 units), Technology (35 units), Marketing (27 units) and HRD (13 units), 114 units, 68 units, 35 units, 25 units and 13 units respectively have been identified as sick as per RBI's Guidelines, while the rest of the units have been detected as non-sick ones.

The surveyed sample units (both sick and non-sick) have found the initial assistance in the fields of Finance, Technology and HRD as not sufficient to meet their requirements. Some of those (68 units) even have pointed out the initial Financial Assistance as totally insufficient (point 1). In this context, maximum portion of the assisted sick SEs has responded the respective fields of assistance as not sufficient enough, while except in Finance, in other fields of assistance (Production and Marketing), maximum number of non-sick assisted surveyed sample units have been found in point 4 (sufficient) of the 5 point rating scale.

Table - 4 :

Assessment of initial assistance to the respective surveyed sample units of Howrah

Entrepreneurship	Assistance to Small Engineering Units of Howrah																								
	Finance					Production					Technology					Marketing					HRD				
	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1
SP (NS)	-	-	-	7	7	-	6	7	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
SP(S)	-	-	-	33	43	-	8	25	13	-	-	-	-	20	5	-	-	10	2	13	-	-	-	5	8

Entrepreneurship	Assistance to Small Engineering Units of Howrah																								
	Finance					Production					Technology					Marketing					HRD				
	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1
Partnership(NS)	-	-	2	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Partnership (S)	-	-	11	9	12	-	-	11	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pvt. Ltd. Co.(NS)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pvt. Ltd. Co.(S)	-	-	-	-	6	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-
Total (NS)	-	-	2	7	7	-	9	7	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Total (S)	-	-	11	42	61	-	8	36	24	-	-	-	20	15	-	-	10	2	13	-	-	-	-	5	8
Grand Total	-	-	13	49	68	-	17	43	24	-	-	-	20	15	-	-	12	2	13	-	-	-	-	5	8

Source : Primary Survey (June 2009 - September 2010).
 Note : NS= non-sick surveyed sample units, S= sick surveyed sample units (viable and non-viable).
 5 = More than sufficient, 4 = Sufficient, 3 = About to be sufficient, 2 = Little bit insufficient, 1 = Totally Insufficient.

3.2.3.3. Assessment of the recurring assistance to the units (Table 5)

As per Table - 5, among the total assisted units taking assistance in Finance (11 units), Production (12 units) Technology (9 units) and Marketing (20 units) on recurring basis, 6 units, 10 units, 5 units and 13 units have been pointed out as sick ones respectively, whereas no assisted unit in HRD has been detected as sick. The surveyed sample units (both sick and non-sick) are not satisfied with the said assistance in all the fields. The sick assisted SEs in this context, have pointed out the respective assistance as little bit insufficient (point 2) except in finance where they have been found in point 1 (totally insufficient). The other group of units has made almost all of the fields of assistance as about to be sufficient (point 3) except the fields of HRD (totally insufficient) and Finance (little bit insufficient) in some portion.

Table - 5 :

Assessment of recurring assistance to the respective surveyed sample units of Howrah

Entrepreneurship	Assistance to Small Engineering Units of Howrah																								
	Finance					Production					Technology					Marketing					HRD				
	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1
SP (NS)	-	-	-	2	-	-	-	2	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	2
SP (S)	-	-	-	-	4	-	-	-	6	-	-	-	-	5	-	-	-	-	9	-	-	-	-	-	-
Partnership(NS)	-	-	2	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	-
Partnership (S)	-	-	-	-	1	-	-	-	4	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-
Pvt. Ltd. Co.(NS)	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
Pvt. Ltd. Co.(S)	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-

Entrepreneurship	Assistance to Small Engineering Units of Howrah																								
	Finance					Production					Technology					Marketing					HRD				
	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1
Total (NS)	-	-	2	3	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	7	-	-	-	-	-
Total (S)	-	-	-	-	6	-	-	-	10	-	-	-	-	-	5	-	-	-	-	13	-	-	-	-	-
Grand Total	-	-	2	3	6	-	-	2	10	-	-	-	4	5	-	-	-	7	13	-	-	-	-	-	5

Source: Primary Survey (June 2009 — September 2010)

Note : NS= non-sick surveyed sample units, S=sick surveyed sample units (viable and non-viable).

5 = More than sufficient, 4 = Sufficient, 3 = About to be sufficient, 2 = Little bit insufficient, 1 = Totally Insufficient.

3.2.3.4. Revival-Assistance to the sick viable surveyed sample units (Table 6)

Table - 6: Sick viable surveyed sample units taken revival-assistance

(no. of units)

Ownership Patterns	Revival Assistance															Not Taken Revival Assistance
	Finance from			Production from			Technology from			Marketing from			HRD from			
	B	MS	N	B	MS	N	B	MS	N	B	MS	N	B	MS	N	
SP	50	-	-	-	23	15	-	25	15	-	35	12	-	32	-	28
Pt	11	-	-	-	9	6	-	13	-	-	-	5	-	11	-	6
Pvt.	2	-	-	-	-	-	-	2	-	-	2	-	-	-	-	4
Total	63	-	-	-	32	21	-	40	15	-	37	17	-	43	-	38

Source : Primary Survey (June 2009 - September 2010)

Here, B= Bank, MS= Micro, Small and Medium Enterprises-Development Institute (MSME-DI), N= National Small Industries Corporation (NSIC).

Table - 6 reflects that among the total 109 sick viable surveyed sample units, 38 units have not taken any revival assistance, while the rest has taken assistance in Finance (from Commercial Bank), Production (from MSME-DI, NSIC), Technology (from MSME-DI, NSIC), Marketing (from MSME-DI, NSIC) and HRD (from MSME-DI). Here, one unit may take assistance in more than one field from more than one institution.

3.2.3.5. Degree of satisfaction of the assisted sick viable units (Table 7)**Table - 7****Degree of satisfaction of the assisted sick viable surveyed sample units**

Ownership Patterns	Level of satisfaction of the revival-assistance in the area of																									
	Finance					Production					Technology					Marketing					HRD					
	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	
SP	-	-	-	3	1	-	-	9	1	1	-	-	1	1	1	-	-	-	2	2	-	-	-	2	1	12
Pt	-	-	2	-	9	-	-	-	9	6	-	-	-	5	8	-	-	-	-	5	-	-	-	2	-	9
Pvt.	-	-	-	-	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2	-	-	-	-	-	-
Total	-	-	2	3	2	-	-	9	2	1	-	-	1	2	1	-	-	-	2	2	-	-	-	4	1	21
				2	9				6	8			4	3	8				7	7				8	8	

Source : Primary Survey (June 2009 - September 2010)
5=Highly Satisfied, 4= Satisfied, 3= Moderately Satisfied, 2= Dissatisfied, 1= Highly Dissatisfied

As per Table - 7, the assisted sick viable surveyed sample units are not satisfied with the revival assistance of the concerned authorities. Moreover, in each respective field, some of the units have been highly dissatisfied.

3.2.4. Nature of Operation of the surveyed sample units

The units are mainly engaged in producing 11 light engineering products, like Shaft, Bush, Pin, Nuts, Bolt etc. All the units have used electricity in their operation as the only source of power.

3.3. Statistical Hypothesis Testing- χ^2 Test

Sickness is the resultant issue of the avoidable and/or unavoidable mismanagement of the functional areas of the unit concerned. In this context, to identify whether there has been any association between the causes of sickness of the surveyed sample units and the assistance in the respective fields, a statistical hypothesis has been tested. For hypothesis testing, the sick sample surveyed units have been divided into two groups like - units responding against the concerned assistance (Group A) and units responding in favour of the said assistance (Group B). In this regard, the non-assisted units have also been considered to compare their position with that of assisted units after getting assistance. Table - 8 reflects the number of all surveyed sample assisted and non-assisted sick units (both viable and non-viable) into two groups : against and in favour of the said assistance.

Table - 8

Number of Sick Surveyed Sample Units against and in favour of assistance

Patterns Unit	Finance		Production		Technology		Marketing		HRD	
	Gr. A	Gr. B	Gr. A	Gr. B	Gr. A	Gr. B	Gr. A	Gr. B	Gr. A	Gr. B
Assisted	111	9	78	–	31	9	30	8	13	–
Non-Assisted*	92	20	146	8	168	24	149	45	101	118
Total	203	29	224	8	199	33	179	53	114	118

Source: Primary Survey (June 2009 - September 2010)

Note : Gr. A= Units responding against the assistance,

Gr. B= Units responding in favour of the assistance.

* Maximum number of the non-sick surveyed sample units might not believe in the effectiveness of the respective assistance. So they have not taken the assistance and responded against the fields. Some of them had faith in the assistance or they might be in favour of the assistance but could not take those due to their personal reasons.

In hypothesis testing, the χ^2 test (Snedecor and Irwin formula) (Goulden, C.H., Second Edition) has been used as test statistic.

Snedecor and Irwin Formula of Chi-Square (χ^2) test : $G^2 / C_1 C_2 [\{ \Sigma(a_i^2/R_i) - C_1^2/G \}]$

Here, for calculation, notations have been changed as follows.

T in place of G

T_A in place of C_1

T_B in place of C_2

T_i in place of R_i

Accordingly, the expression after changing the notations has been :

$$\chi^2 = T^2 / T_A T_B [\{ \Sigma(a_i^2/T_i) - T_A^2/T \}]$$

Here, T = Total sick sample units,

T_A = Total of Group A,

T_B = Total of Group B,

a_i / T_i = Number of surveyed sample units in the specific ranking / corresponding total number of sample units.

The hypotheses have been tested for 1 degree of freedom (d.f.) that is (number of rows – 1).

3.3.1. Hypotheses

The following hypotheses have been framed keeping in mind the objectives of the present paper.

- H₀₁**: There was no significant association between the sickness in the surveyed sample units due to inefficient financial management and financial assistance to them.
- H₀₂**: There was no significant association between the sickness in the surveyed sample units due to deficiency relating to production management and assistance in production to them.
- H₀₃**: There was no significant association between the sickness in the surveyed sample units due to inefficient planning in technical feasibility and technical assistance to them.
- H₀₄**: There was no significant association between the sickness in the surveyed sample units due to deficiency in marketing management and assistance in marketing to them.
- H₀₅**: There was no significant association between the sickness in the surveyed sample units due to deficiency in labour management and assistance in human resource development to them.

3.3.2. Results - χ^2 Test

Calculation of χ^2 value using Snedecor and Irwin Formula with respect to H₀₁ has been shown in Table - 9.

Table - 9

Assistance in Finance and Inefficient Financial Management as a cause of sickness of units : Opinion of the Units Surveyed

Number of Surveyed Sample (Sick) units	Responses of the units on the financial assistance				Total
	Units responded against (Group A)		Units responded in favour (Group B)		
	In number	In Percentage	In number	In percentage	
Financially Assisted Unit	111	92.5	9	7.5	120 (51.72)
Financially Non-Assisted Units	92	82.14	20	17.86112	(48.27)
Total	203 = T _A	87.5	29 = T _B	12.5	232 (100.00)

Source : Primary Survey (June 2009 - September 2010)

$$\begin{aligned}
 \text{Calculation of } \chi^2 \text{ test} &= \chi^2 = T^2 / T_A T_B \{ \{ \Sigma (a_i^2 / T_i) \} - T_A^2 / T \} \\
 &= (232)^2 / 203 * 29 \{ \{ (111)^2 / 120 + (92)^2 / 112 \} - (203)^2 / 232 \} \\
 &= 5.67
 \end{aligned}$$

Critical value of χ^2 at 5 percent level of significance for d.f. 1 is 3.84. Therefore, H_0 has been rejected and it may be concluded that there has been significant association between the causes of surveyed sample sick units due to inefficient financial management and financial assistance to them.

92.5 percent of financially assisted units responded against the level of financial assistance of the concerned authorities to them and made inadequate, non-availability of the need-based finance as responsible for their inefficient financial management or a major cause of the sickness of their units.

The computations of χ^2 test of all the hypotheses and their interpretations (only when H_0 is rejected) are now exhibited in the following Tables - 10 and 11.

Table - 10 Results of Hypothesis Testing

Hypothesis	Assisted Units (%)		Non-Assisted Units (%)		Results (χ^2)	Remarks
	Gr. A	Gr. B	Gr. A	Gr. B		
H_{01}	92.5	7.5	82.14	17.86	5.67	R (5%)
H_{02}	100.00	—	94.81	5.19	4.33	R (5%)
H_{03}	77.5	22.5	87.5	12.5	2.79	A (5%)
H_{04}	78.95	21.05	76.80	23.20	0.06	A (5%)
H_{05}	100.00	—	46.12	53.88	14.25	R (1%)

Note : Gr. A= Units responding against the assistance,
Gr. B= Units responding in favour of the assistance.
R = Rejected, A = Accepted
Probability Value of χ^2 for 1 d.f. at 5 % level of significance is 3.84 and at 1 % level of significance is 6.63.

Table-11 Interpretations of Hypothesis Testing (when H_0 is rejected)

Hypotheses	Units which suffered more	Results	Interpretations
H_{01}	Assisted	5.67 {R (5%)}	The financially assisted units might not get their assistance as per their requirements. This situation probably invited overburden of some unwanted financial situations, planned in advance, while the other group of units with no external financial assistance might not have proper idea regarding the

			said suffering which has made them stand slightly behind the former group in the connection of percentage of unit in Group A. Consequently, a significant association between sickness in the surveyed sample units due to inefficient financial management and financial assistance to them is found.
H₀₂	Assisted	4.33 {R (5%)}	The concerned authoritative institutions might not provide practical assistance to SEs to develop their productivity range or the assisted units might not be able to apply the modernised advanced method in their production action which has made 100 percent of the assisted units respond against the assistance in production, considering their wastage of money. The other group of units might also have the idea regarding the ineffectiveness of production assistance in practice but as they did not spend any amount for availing of the assistance, they have been detected slightly behind the former in respect of the percentage of units in Group A. In consequence thereof, a significant association between sickness in the surveyed sample units due to deficiency relating to production management and assistance in production to them is found.
H₀₃	Assisted	14.25 {R (1%)}	The authoritative institutions (MSME-DI) might not support the human resource of SEs through practical training programme or the trained personnels and might not apply their skill practically in their operational fields. So all the assisted units have responded against the concerned assistance of the authoritative institutions. The non-assisted units here might have interested in getting assistance in HRD, considering it as important for their operations. This has made them stand far behind the assisted units so far as the percentage of units in Group A is concerned. As a result, a significant association between the sickness in the surveyed sample units due to deficiency in labour management and assistance in human resource development to them is found.

Note: Gr. A= Units responding against the assistance,
 Gr. B= Units responding in favour of the assistance.
 R = Rejected, A = Accepted
 Probability Value of χ^2 for 1 d.f. at 5 % level of significance is 3.84 and at 1 % level of significance is 6.63.

4. EVALUATION OF THE ASSISTANCE PROGRAMMES

The authoritative institutions have adopted and implemented several promotional assistance programmes for SEs in Howrah, not exceptionally as like as the other parts of India. As per RBI's policies, separate SEs cell and branch are established in different banks of Howrah. Moreover, SEs board is established to materialise all of the state and central principles, policies sketched for the sector. The MSME-DIs of different regions (Kolkata, Durgapur, Suri, Siliguri) also have been expanding their beneficial assistance to small engineering enterprises of Howrah by framing practical training programmes at reasonable cost. NSIC has, in the same line, adopted several new promotional schemes for exhibiting the products of this region properly and smoothly in the market.

But the benefiting authoritative institutions have time to time been rebooked for their unusual malpractices in their expected quality and level of assistance to SEs. This was also reflected in the result of primary survey of the respective sample units where apart from the sick assisted surveyed sample units, the non-sick ones have also been found as against the respective assistance programmes of authoritative institutions.

According to the respective surveyed sample units, the degree of assistance of the authoritative institutions in different areas (Finance, Production, Technology, Marketing and HRD) could not be considered as well-covered in Howrah. Table - 12 reflects the coverage of the assistance of the authoritative institutions in Howrah as per the perceptions of the sample surveyed units.

Table - 12

Coverage of Assistance of Authoritative Institutions to Small Engineering Units of Howrah

Entrepreneurship	Finance					Production					Technology					Marketing					HRD					
	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	
SP	-	-	3	70	80	-	-	9	5	11	-	-	1	6	99	-	-	-	1	49	-	-	-	7	90	85
Partnership	-	-	1	13	26	-	-	-	1	40	-	-	-	1	35	-	-	-	3	13	-	-	-	3	26	21
Pvt. Ltd. Co.	-	-	-	19	-	-	-	-	9	10	-	-	-	9	10	-	-	-	1	-	-	-	-	-	-	19
Total	-	-	4	10	10	-	-	9	7	16	-	-	1	9	14	-	-	-	1	62	-	-	-	1	11	12
			3	2	6				3	9			5	2	4				8	9				0	6	5

Source : Primary Survey (June 2009 - September 2010).

Note : 5 = excellent (90% to 100%), 4 = Satisfactory (70% to < 90%), 3 = Moderate (40% to < 70%), 2 = Below Average (10% to < 40%), 1 = Not covered at all (< 10%).

It may be mentioned here that all of the sample surveyed units did not take the respective assistance from the authorities for their progress and survival which might force many of them to respond against the coverage of the assistance in Howrah.

As per the report of the concerned surveyed sample units of Howrah, finance has hardly been found to be sufficient to meet the daily and/or long-term requirements of the units. The units here have blamed the banks/other FIs for not allowing them to avail of the need-based adequate borrowed capital and for charging extra-ordinary rigid and strict terms and conditions for the loan amount. Besides, as per their comments, the banks usually preferred the large or medium enterprises, having greater capacity to repay interest and principal amount in due course of time, depriving the portion of SEs, the neediest sector of India in this context. All these factors forced most of the sample units to avoid bank borrowing and accept financing from third party (friend, relatives) at more harsh terms and conditions.

The marketing assistance, as provided mainly by NSIC to the respective surveyed sample units here has been inefficient and insufficient also to assist the units in exhibiting their products in market through proper channel; while somehow, MSME-DI served this assistance to the units.

According to the surveyed sample units, the technical assistance as provided by the respective institutions, has not been able to cope up with the present hi-tech environmental situation for which the units have to suffer badly due to obsolete plant, machineries and technology and also for outdated technical know-how. The surveyed sample units of Howrah also remarked that the training programme of the MSME-DI has not covered the modern updated scientific programme in different fields. Further, the training schedule of MSME-DI has not been sketched in accordance with the interest, aptitude, academic background of the trainees which resultantly has hindered the practical application of it by the trainees.

Besides, the municipality and corporation of Howrah has also not been found to assist in developing infrastructural set-up which has constantly been inviting a tremendous hardship in the way of survival of the concerned units.

5. CONCLUSION AND SUGGESTIONS

Howrah, for its spellbound performance in the engineering sector, especially framed by SEs, was recognised as the most promising and prosperous industrial belt of WB and India as well. But the constant degradation and deterioration of its performance in various fields of all sectors especially in engineering, gradually offers it a countless number of sick SEs and thus forcing Indian economy to consider it as a worthless engineering cluster. Painfully, it was found in the current primary survey that 83.67 percent (210 units) of the total surveyed sample units did not even believe the possibility of recovering of the small engineering units of Howrah from the present unhealthy situation. They pointed out the inadequate need-based finance, ineffective modernisation, technical upgradation, impractical training, unenthusiastic work culture of the employers and employees as responsible for their moribund condition.

Therefore, in view of getting rid of the present hazardous situation, several promotional supports must be assured by the respective authoritative institutions and government assistance programme. The following suggestions may be offered to the respective authoritative institutions :

❖ To banks/financial institutions:

- Banking services must be remoulded to invite easy, speedy and transparent access of the need-based credit facility to the genuine, potential small engineering units of Howrah.
- Banks must obey the declaration of Credit Rating Information Service India Ltd. (CRISIL), SE Rating services and should maintain proper, neat and factual company profile, containing detail information about the borrower units in view of smashing down the Non Performing Assets (NPA).

❖ To the authoritative institutions – MSME-DI and NSIC

- They should introduce more effective and practical programme, in accordance with the necessity and interest of their beneficiaries, which may be identified through research work. A monitoring cell should be introduced to highlight the gap between the expectation of the participants from the training programme and the actual level of their satisfaction.
- Financial Management should be considered with great importance within the schedule of the training programme of MSME-DI to train up the entrepreneurs.
- The experts of marketing programme of NSIC must specify and focus on the marketing channels and cells where the trainees can exhibit and sell their products.
- The experts of the respective fields of training programme should have requisite updated knowledge and must deliver their lectures in lucid and realistic language which can easily be accessible and understandable to the trainees.

It is, therefore, the responsibility of the Government, concerned institutions and society at large to ensure a steady, long lasting growth and prosperity of the erstwhile Birmingham of the East and repair all the loopholes standing in the way of its development. Among the total surveyed sample units, not negligibly 16.33 percent (41 units) has urged that Howrah small engineering sector has the potentiality to overcome all the obstacles and regain its most appreciable position. Their faithfulness will not be futile if all the responsible parties in this context play their role properly and thus invite a silver lining in the dark clouds, thickened over Howrah small engineering sector.

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