PERFORMANCE OF INTELLECTUAL CAPITAL MANAGEMENT OF INDIAN PUBLIC SECTOR ENTERPRISES – USING GRA AND MPI

Biswajit Datta,
B.E., M.Tech. ADIM (AIMA)
PhD in Management Scholar
Aligarh Muslim University, India.

ABSTRACT

Intellectual capital is most vital enabler of enterprises. Managing intellectual capital effectively can greatly enhance the competitive advantages of any enterprises. This study focused on how the enterprises utilize intellectual capital, in order to strengthen the competitiveness of enterprises. This research established a novel assessment model to measure the performance of intellectual capital management. The research target is the Indian Public Sector Enterprises (PSE). The research collected data from the Annual Report of PSEs listed in Bombay Stock Exchange for the period 2001-02 to 2010-11. A total of 50 companies randomly selected amongst Indian Public Sector Enterprises and were chosen as empirical samples. The results demonstrated that, this novel assessment method really identify the relative advantages and benchmarking for Indian Public Sector Enterprises. The best company is chosen both in operational performance and productivity improvement. This model is a performance assessment model to judge Intellectual Capital along with Financial Capital.

Keywords: *Intellectual Capital, Knowledge Management, Indian Public Sector Enterprises, Data Envelopment Analysis, Grey Relational Analysis, Malmquist Productivity Index.*

Introduction:

By the end of the Second World War in 1945, most agriculture-based economies in Europe and North America had transformed into manufacturing economies, changing the focus from land and labour to financial and physical capital. Today, world economies are moving from manufacturing toward knowledge-based economic activity. Drucker (1993) indicates that knowledge is the only meaningful factor of production that is superior to land, labour, and capital. He adds that the unique contribution of management in the 20th century was the 50-fold increase in the manual worker's productivity through the conversion of labour-intensive economies into manufacturing economies. In the 21st century, management has contributed to the increase in productivity of the knowledge worker and a shift from production equipment to knowledge work. This is why many firms and even countries are planning strategies to reposition themselves in the emerging knowledge economy. In the current era of the knowledge economy, business resources comprise 20% tangible assets and 80% that are intangibles. The corporate performance measurement system, however, dates back to the manufacturing era, and are heavily inclined toward financial and physical aspects, lacking relevant information on the performance of intellectual capital (IC) or knowledge capital (KC). Thus, different ways of monitoring operations are needed to achieve maximum productivity from companies' intangible resources. There have been many attempts to define the term IC. Edvinson and Malone (1997) said IC as "knowledge that can be converted into value."

Economic managers in many countries feel that the transformation of production-based economies to knowledge-based economies is inevitable if they are to maintain the pace of economic development. According to Pulic (2000), IC is a moving force for business success. Seeing the growing importance to prepare for the challenges of the knowledge economy

in the globalization era, the Government of India has constituted National Knowledge Commission under the chairmanship of Sam Pitroda. It is expected that the recommendations of the commission will ultimately facilitate far-reaching changes in the field of governance, education and research. To quote the chairman of the commission, "We are planting the seeds that will produce results within 20 years." In a knowledge economy, IC is considered crucial to the competitiveness of many companies, regardless of which industry they belong to. A sample of 50 companies listed in BSE-PSU are selected keeping in view that most companies with vast intellectual capital management (ICM) experience are large organizations of India have potential to become large scale organizations of the world. BSE-PSU represents a range of industries, making it easier to generalize the findings.

This research focuses on the firm's Intellectual Capital Performance management using the Value Added Intellectual Coefficient (VAIC). The VAIC has become very popular due to its straightforward calculations, availability of reliable audited data, and easy comparison across various industrial sectors (Pulic 2004). This method provides a standardized and straightforward measure of calculating and comparing IC performance across various sectors at national and international levels. The method uses publicly available audited information, which is more reliable and more usable by internal and external stakeholders to check IC efficiency. The VAIC-based view of the firm gives a better insight into viewing a firm's value-creation efficiency using different IC resources. Using the VAIC index, this paper examines the ranking of organization based on Grey Relation Analysis and Malmquist Productivity Index. The study is quantitative and based on ten-year data from 2001-02 to 20010-11, gathered from the audited annual reports of BSE-PSU companies. Companies in the sample cover more than seven industrial sectors, making the sample representative.

In the developed world, the term IC is widely used by the research community. Pulic (2000) used VAIC to analyze and measure the performance of FTSE-250 companies under the London Stock Exchange. Kujansivu and Lonnqvist (2007) utilized a subordinate concept of VAIC and intellectual capital efficiency (ICE) to analyze the IC performance of companies covering the 11 largest industries of Finland. Other studies that relate to the IC disclosure of FTSE-100 and S&P-500 companies were conducted by Williams (2001) and Robert (2000), respectively. Mavridis (2004), Goh (2005), and Kamath (2007) use VAIC to analyze the performance of Japanese, Malaysian, and Indian banks, respectively, and find significant differences in IC performance.

The Data:

The research collected data from the Annual Report of PSEs listed in Bombay Stock Exchange for the period 2001-02 to 2010-11. A total of 50 companies randomly selected amongst Indian Public Sector Enterprises and were chosen as empirical samples.

The Models:

VAIC (Value Added Intellectual Coefficient) Model:

The VAIC used in this study is introduced by Pulic (1998). It provides a new way of measuring value creation efficiency in companies using data available in financial statements. VAIC is designed to effectively evaluate the efficiency in adding value (VA) to a firm, focusing on value addition in an organization and not on cost control (Pulic 2000). The VAIC is based on the following five calculations:

(i) VA = OUT – IN where VA is the value addition from current year resources. Out = total sales and In = cost of materials, components, and services. Alternatively, value added can be calculated as: = OP + EC + D + A where OP = operating profit, EC = employee cost, D = depreciation, and A = amortization.

(ii) CEE = VA/CE where CEE is the capital employed efficiency of the firm and CE = capital employed (net book value of total assets).

(iii) HCE = VA/HC where HCE is the human capital efficiency of the firm and HC = total salaries and wages (direct labor + indirect labor + administration, marketing, and selling salaries).

(iv) SCE = SC/VA where SCE is the structural capital efficiency of the firm and SC = VA – HC.

(v) VAIC = CEE + HCE + SCE where VAIC indicates corporate value creation efficiency.

VAIC does not provide the money value of IC. It simply adds the 3 different efficiency factors of IC and calculates an efficiency index that shows how the IC of a firm contributes to value addition. To measure IC efficiency, Pulic (2000) also offers VAIC's subordinate concept that adds human capital and structural efficiency (ICE = HCE + SCE).

$$\text{vi) Earnings Per Share (EPS)} = \frac{\text{Profit after tax}}{\text{Number of equity shares}}$$

Measures for independent variables identified from the literature review (X_1, X_2, X_3) are efficiency determinants of VAIC, i.e., CEE, HCE, and SCE; the dependent variable (Yi) is earning per share.

Y_i = earnings per share (EPS)
X_1 = capital employed efficiency (CEE)
X_2 = human capital efficiency (HCE)
X_3 = structural capital efficiency (SCE)

This study focused on how to utilize intellectual capital more efficiently, in order to strengthen the competitiveness of public sector enterprises by

maximizing earning per share i.e. shareholder's income generation. This research established a novel assessment model to measure the performance of intellectual capital management in two aspects, by using *Grey Relational Analysis(GRA)* to measure operational performance and *Malmquist Productivity Index(MPI)* to judge productivity evaluation.

Gray relational generating means as new information to the system's needs, based on the processed data used to find the rule of data. Hsia's method (Hsia and Wu,1998) is adopted for definition and calculation. Furthermore, the study introduces Deng's grey relation grade (Deng,1989). The complete concepts are described as follows;

Grey Relational Analysis (GRA):

The data which are not complete or not determined is called Grey. The Grey system is a multidisciplinary approach for analysis and abstract modeling of systems for which the data is limited, incomplete. This study adopts this research model based on GRA, and influences factors evaluation and selection. The Grey relational analysis uses data from the GRA to dynamically compare each factor quantitatively.

Let the number of the listed companies are *m* and the number of the influence factors are *n.*

Then *m* x *n* value matrix (eigenvalue matrix) is as follows.

$$X = \begin{bmatrix} x_1(1), x_1(2), ...x_1(n) \\ x_2(1), x_2(2), ...x_2(n) \\ .... \\ .... \\ x_m(1), x_m(2), ...x_m(n) \end{bmatrix}$$

where $x_i(k)$ is the value of the number *ith* listed company and the number *k* influence factors.

Generally, three kinds of influence factors are seen:

1. Benefit –the bigger the better,
2. Defect – the smaller the better
3. Medium – the nearer to a certain standard value the better.

It is impossible to compare the different kinds of factors as they have different influence. Hence, the standardized transformation of these factors is done. The formulas can be used as follows.

$$x_i(k) = \frac{x_i(k) - \min x_i(k)}{\max x_i(k) - \min x_i(k)}$$

The 1st standardized formula is suitable for the benefit factor.

$$x_i(k) = \frac{\max x_i(k) - x_i(k)}{\max x_i(k) - \min x_i(k)}$$

The 2nd standardized formula is suitable for defect factor.

$$x_i(k) = \frac{\left|x_i(k) - x_0(k)\right|}{\max x_i(k) - x_0(k)}$$

The 3rd standardized formula is suitable for the medium factor. Here we have taken the bigger the better.

The grey relation degree is calculated as follows:

i) The absolute difference of the compared and the referential series is obtained by using the following formula:

$$\Delta x_i(k) = \left|x_0(k) - x_i(k)\right|$$

and the maximum and the minimum difference is found.

ii) The distinguishing coefficient *p* is in between 0 and 1. Usually, the distinguishing coefficient *p* is set to 0.5.

iii) Calculation of the relational coefficient and relational degree is as follows.

In Grey relational analysis, Grey relational coefficient ξ is expressed as follows:

$$\xi_i(k) = \frac{\Delta \min + p\Delta \max}{\Delta x_i(k) + p\Delta \max}$$

and then the relational degree is follows as:

$$r_i = \sum\left[J(k)\xi(k)\right]$$

In the above equation, ξ is the Grey relational coefficient, *J (k)* is the proportion of the number *k* influence factor to the total influence factors. It is evident that, the sum of *J (k)* is 100%. The result obtained by using the above equation is applied to measure the quality of the listed companies.

Malmquist Productivity Index (MPI):

This study uses DEA's malmquist model by using listed Indian Public Sector Enterprises information to analyse efficiency change for all the relevant companies and to measure technical efficiency scores during two particular periods. Secondly, the study analzes technical change and measures the condition of efficiency frontier-shift between two particular periods. Finally, the study analyzes Malmquist productivity index and finds out the main reason of Malmquist productivity change. Moreover, this study also carries out a comparision between the period efficiency and productivity change, in order to understand the situation of every annual growth and decline of efficiency and productivity.

The Malmquist input oriented TFP change index between the base period t & the following period t+1 is defined as:

$$M(y_t, x_t, y_{t+1}, x_{t+1}) = \left[\frac{d_{t+1}(Y_{t+1}, X_{t+1})}{d_t(Y_t, , X_t)} X \frac{d_t(Y_{t+1}, X_{t+1})}{d_{t+1}(Y_{t+1}, X_{t+1}}\right]^{1/2}$$

A value of M greater than unity implies a positive TFP growth from period t to period t+1.Otherwise, a value of M less than one indicates a TFP decline. Equation (7) is geometric mean of two TFP indices. The first index is calculated with respect to period t technology, while the second index is evaluated with respect to period t+1 technology.

The study mainly focuses on using GRA and DEA to probe into intellectual capital management performance of Indian Public Sector Companies. Through literature review, data collection, GRA, DEA we can clearly understand the latest situation of Indian Public Sector's management performance of intellectual capital. Also, this study encourages further transparency and competitiveness promotion of corporate governance and offers the managers the information of traditional accounting financial report that cannot be assessed usually. We emphasize again that intellectual capital is an essential strategy tool that will assist business to strength self-competitive advantage and promote corporate performance.

This study uses companies who are Indian Public Sector Enterprises as DMUs. A total of 50 companies with data from the year 2001-02 to 2010-11 are chosen to be our DMU as empirical sample. There are three inputs, HCE,SCE and CEE and one output EPS. The steps are as follows: when proceeding the part of localization grey relational analysis, the first step must set up referential sequence and comparative sequence. This study factors belong to the small identity, then select the minimum and the large identity, then select the maximum to setup referential sequence. So those 50 companies are comparative sequence. When proceeding, the original data into the grey relational generation, it mainly deals with data processing of the original data that are yet to be true according to actual situation and promotion of data's visualiziability. This study adopts Hsia's method(Hsia and Wu,1998) and proceeds the original data of the HCE, SCE, CEE and EPS(all larger the better).Then calculate the grey relational coefficient and grey relational grade. Followed by the value of the grey relational grade, calculate the grey relational rank ordinal.

Results:

There is now a renewed focus on disinvestments in India. Listed PSUs or Public Sector Undertakings are among the largest and mostly profitable organizations in India. All listed PSUs together constitute 30% of the total market capitalization at BSE or Rs. 19.79 lakh crores. The key objective of this study is to examine the role of HCE,SCE and CEE as an input(all important components of ICE) in creating out firm's EPS (a measurement of shareholder's income or wealth creation).

Grey Relational Analysis (GRA):

As shown in Table-1, the top ranking orders of 50 companies in 10 years are mainly Power Finance Corporation, National Mineral Development Corporation, State Bank of India and so on. The top 3 average grey relation grade ranking order of 50 companies from financial year 2001-02 to 2010-11 are Power Finance Corporation, National Mineral Development Corporation, State Bank of India respectively. Higher grey relational grade means closer to referential sequence.

Table 1: GRA Rank

DMUs	Average Grey Relation Grade	Rank
Power Finance Corporation	0.4740	1
National Mineral Development Corporation	0.4549	2
State Bank of India	0.4520	3
Container Corporation of India Limited	0.4497	4
State Trading Corporation	0.4477	5
Oil India Limited	0.4455	6
Gas Authority of India Limited	0.4329	7
Rural Electrification Corporation	0.4326	8
Bharat Electronics Limited	0.4315	9
Jammu and Kashmir Bank	0.4303	10
Punjab National Bank	0.4280	11
Bharat Heavy Electricals Limited	0.4277	12
Dredging Corporation of India Limited	0.4274	13
Hindustan Petroleum Corporation Limited	0.4254	14
Bharat Petroleum Corporation Limited	0.4241	15
Corporation Bank	0.4240	16
Indian Oil Corporation Limited	0.4235	17
Power Grid Corporation of India Limited	0.4235	18
National Thermal Power Corporation Limited	0.4232	19
Oil and Natural Gas Corporation	0.4232	20
National Aluminium Corporation	0.4214	21
Shipping Corporation of India	0.4204	22
Gujarat Mineral Development Corporation	0.4201	23
Bank of Boroda	0.4195	24
Balmer Lawrie of India	0.4194	25
Canara Bank	0.4192	26

DMUs	Average Grey Relation Grade	Rank
Manganese Ore of India Limited	0.4174	27
Oriental Bank of Commerce	0.4172	28
Neyveli Lignite Corporation	0.4144	29
Metal and mineral Trading Corporation	0.4137	30
Bharat Earth Movers Limited	0.4136	31
Union Bank	0.4120	32
Industrial Development Bank of India	0.4118	33
Allahabad Bank	0.4118	34
Bank of India	0.4116	35
National Fertilisers Limited	0.4110	36
Andhra Bank	0.4100	37
Engineers India Limited	0.4098	38
Coal India Limited	0.4094	39
Rashtriya Chemical and Fertilisers Limited	0.4089	40
Indian Bank	0.4089	41
Steel Authority of India Limited	0.4089	42
Indian Overseas Bank	0.4083	43
Syndicate Bank	0.4079	44
Vijaya Bank	0.4059	45
Dena Bank	0.4046	46
Hindustan Copper	0.4046	47
Bank of Maharashtra	0.4043	48
UCO Bank	0.4034	49
Mahanagar Telecom Nigam Limited	0.3987	50

Malmquist Productivity Index (MPI):

This analysis will explore the relationship between the intellectual capital management and earning per share, evaluating the efficiency and productivity of the intellectual capital. Researcher has selected 3 inputs HCE,SCE and CEE and 1 output EPS suitably to correlate to the components of the intellectual and to performance, with the aim to analyse productivity and efficiency of Intellectual capital and the relationship between intellectual capital management and business performance, earning per share. Researcher has used EMS (Efficiency Measurement System) ver 1.3 developed by Holger Scheel.

In the Table 2 the researcher has observed that under variable return to scale and output oriented DEA model SBI is most efficient (all score are < 100%). More so, in the year 2007-08 when the score is 17.86% (most least score). This is the benchmark result.

Conclusion:

As a pioneering attempt to analyze the performance of BSE-PSU from the perspective of IC, this paper is a good source of reference for future research in the Indian corporate sector. The study is based on strong theoretical foundations and research-proven methodology. The data utilized in this study are also prepared by qualified accountants and audited by statutory auditors, thus increasing reliability. Additionally, this study contributes to the existing literature in the following ways:

1. It provides the evidence on the role of HCE, SCE and CEE in shareholders earnings of a company using last ten-year data for different industrial sectors of the BSE.
2. More than 30% of investors at the BSE and fund and portfolio managers will benefit from the idea of IC modeling as a better measure of evaluating the firm than the traditional approach of net profitability while developing a portfolio. They can observe the impact of IC efficiency not only on annual dividends but also on capital gains.

The study proves that VAIC can be used by regulatory authorities to identify the weaknesses and strengths of different PSUs.

The study is conducted to examine the relationship between IC and a firm's EPS through empirical research, which has been concluded successfully. The contribution of this research is important both for academic researchers as well as business professionals. IC literature is beneficial in deciding the potential role of ICE in a firm's performance, more so on shareholders value: business professionals benefit by understanding the importance of allocating their precious resources to support IC and ultimately the firm's shareholders earning. Keeping in view the significant role of IC in shareholder earning, the study emphasizes the need for guidelines for measuring and disclosing IC in financial reports. As a supervisory body for the corporate sector, the Securities and Exchange Board of India (SEBI) and the Institute of Chartered Accountants of India and the Institute of Cost and Works Accountants of India, are urged to take the initiative in this regard. Moreover, as India opens its stock markets to more and more foreign investors who need financial and nonfinancial information to assist in their decision making, reporting IC becomes all the more important. In a global environment, if information related to IC, health, safety, environment, and corporate social responsibility issues are disclosed in firms' annual reports, it could enhance their value in the eyes of international investors. This study is one of the first empirical tests of association between IC and a firm's

shareholders' earning in India, thus providing a good source for IC researchers in the future.

References:

[1] Abeysekera, I., (2007). Intellectual Capital Reporting Between Developing and Developed Nation. Journal of Intellectual Capital, 8(2), 329-345.

[2] Bontis, N., Kew, W. C. C. and Richardson, S., (2000). Intellectual Capital and Business Performance in Malaysian Industries. Journal of Intellectual Capital, 1(1), 85-100.

[3] Bornemann, M., (1999). Potential of Value Systems According to the VAIC Method. International Journal Technology Management, 18, 463-475.

[4] Bozbura, F.T., (2004). Measurement and application of intellectual capital in Turkey. The Learning Organization, 11(4/5), 357-367.

[5] Chen, M., Cheng, S., Hwang, Y., (2005). An Empirical Investigation of the Relationship between Intellectual Capital & Firm's Market Value and Financial Performance. Journal of Intellectual Capital, Vol. 6 (2), 159-176.

[6] Drucker, P. F., (1993). Post Capitalist Society. Butterworth Heinemann Publishings, Oxford.

[7] Edvinson, L. and Malone, M., (1997), Intellectual Capital: Realizing Your Company's True Value by Finding its Hidden Bran Power. Harper Business, New York.

[8] Firer, S. and William, S.M., (2003). Intellectual Capital and Traditional Measures of Corporate Performance. Journal of Intellectual Capital, 4(3), 348-360.

[9] Flostrand, P., (2006). The Sell Side - Observations on Intellectual Capital Indicators. Journal of Intellectual Capital, 7(4), 457-473.

[10] Goh, P.C., (2005). Intellectual Capital Performance of Commercial Banks in Malaysia, Journal of Intellectual Capital, 6(3), 385-396.

[11] Guthrie, J., Petty, R., Ricceri, F., (2005). The Voluntary Reporting of Intellectual Capital. Journal of Intellectual Capital, 7(2), 254-271.

[12] IT World,(2000). Editorial Article, Available at: www.itworld.com?Mag/2698/CIO010315lev/

[13] Johnson, H. T., Kaplan, R. S., (1987). Relevance Lost: The Rise and Fall of Management Accounting. Harvard Business School Press, Boston.

[14] Kamath, G. B., (2007). The Intellectual Capital Performance of Indian Banking Sector. Journal of Intellectual Capital, 8(1), 96-123.

[15] Kujansivu, P., (2007). Investigating the Value and Efficiency of Intellectual Capital. Journal of Intellectual Capital, 8(2), 272-287.

[16] Mavridis, D. G, (2005). Intellectual Capital Performance Drivers in the Greek Banking Sector. Management Research News, 28(5), 43-62.

[17] Tan, H.P., Plowman, D., Hancock, P., (2007). Intellectual Capital and Financial Returns of Companies. Journal of Intellectual Capital, 8(1), 76-94.

[18] Tseng, C., Goo, Y.J., (2005). Intellectual Capital and Corporate Value in an Emerging Economy: Empirical Studies of Taiwanese Manufacturers. R & D Management, 35(2), 187-201.

Table 2: MPI Rank

S N	DMU	Score	HCE {I}{V}	SCE {I}{V}	CEE {I}{V}	EPS {O}{V}	Benchmarks	{S} HCE {I}	{S} SCE {I}	{S} CEE {I}	{S} EPS {O}
1	{X} RCFL(2001-02)	4714.68%	0	5.73	76.9	1	451 (0.14) 452 (0.19) 489 (0.67)	0.8	0	0	0
2	{X} RCFL(2002-03)	0.00%	0	0	0	0		0	0	0	0
3	{X} RCFL(2003-04)	1041.95%	0	0.91	14.7	1	451 (0.06) 452 (0.09) 489 (0.85)	0.74	0	0	0
4	{X} RCFL(2004-05)	1539.47%	0	0	17.8	1	452 (0.02) 489 (0.98)	0.8	0.02	0	0
5	{X} RCFL(2005-06)	1261.42%	0	1.07	17.4	1	451 (0.04) 452 (0.08) 489 (0.89)	0.9	0	0	0
6	{X} RCFL(2006-07)	1020.01%	0	1.09	14.9	1	451 (0.07) 452 (0.14) 489 (0.79)	1.34	0	0	0
7	{X} RCFL(2007-08)	1123.26%	0	0.97	15.7	1	451 (0.05) 452 (0.09) 489 (0.86)	0.75	0	0	0
8	{X} RCFL(2008-09)	983.13%	3.45	0.51	10.1	1	451 (0.03) 452 (0.03) 489 (0.89) 490 (0.06)	0	0	0	0

9	{X} RCFL(2009-10)	732.63%	0	0.56	10.4	1	451 (0.08) 452 (0.08) 489 (0.84)	0.14	0	0	0
10	{X} RCFL(2010-11)	918.34%	0.96	0	0	1	489 (0.78) 490 (0.22)	0	0.01	0.04	0
11	{X} REC(2001-02)	585.19%	0	0	0	1	489 (1.00)	12.49	0.31	0.07	0
12	{X} REC(2002-03)	554.39%	0	0	0	1	489 (1.00)	18.88	0.33	0.17	0
13	{X} REC(2003-04)	526.67%	0	0	0	1	489 (1.00)	18.72	0.33	0.12	0
14	{X} REC(2004-05)	410.39%	0	0	0	1	489 (1.00)	25.38	0.34	0.12	0
15	{X} REC(2005-06)	502.82%	0	0	0	1	489 (1.00)	15.06	0.32	0	0
16	{X} REC(2006-07)	465.37%	0	0	5.38	1	452 (0.03) 489 (0.97)	15.79	0.26	0	0
17	{X} REC(2007-08)	441.72%	0	0	0	1	489 (1.00)	10.64	0.3	0.02	0
18	{X} REC(2008-09)	277.38%	0	0	0	1	489 (1.00)	18.65	0.33	0.05	0
19	{X} REC(2009-10)	178.14%	0	0	0	1	489 (1.00)	20.54	0.33	0.07	0
20	{X} REC(2010-11)	151.33%	0	0	1.75	1	452 (0.02) 489 (0.98)	24.55	0.28	0	0
21	{X} SAIL(2001-02)	0.00%	0	0	0	0		0	0	0	0
22	{X} SAIL(2002-03)	0.00%	0	0	0	0		0	0	0	0
23	{X} SAIL(2003-04)	654.85%	0.54	0	0	1	489 (0.08) 490 (0.92)	0	0	0.14	0
24	{X} SAIL(2004-05)	248.97%	0	0	0	1	489 (1.00)	0.63	0.07	0.41	0
25	{X} SAIL(2005-06)	418.27%	0.43	0	0	1	489 (0.69) 490 (0.31)	0	0.01	0.19	0
26	{X} SAIL(2006-07)	273.50%	0	0	0	1	489 (1.00)	0.31	0.04	0.29	0
27	{X} SAIL(2007-08)	225.10%	0	0	0	1	489 (1.00)	0.2	0.03	0.34	0
28	{X} SAIL(2008-09)	272.02%	0.28	0	0	1	489 (0.68) 490 (0.32)	0	0.01	0.25	0
29	{X} SAIL(2009-10)	251.25%	0	0	0	1	489 (1.00)	0.34	0.04	0.13	0
30	{X} SAIL(2010-11)	340.99%	0.33	0	0	1	489 (0.56) 490 (0.44)	0	0.01	0.09	0
31	{X} SBI(2001-02)	51.86%	0.78	0.01	0	1	0				
32	{X} SBI(2002-03)	44.47%	0.65	0.01	0	1	0				
33	{X} SBI(2003-04)	37.47%	0.53	0.01	0	1	0				
34	{X} SBI(2004-05)	35.82%	0.52	0.01	0	1	0				
35	{X} SBI(2005-06)	31.25%	0.47	0.01	0	1	0				
36	{X} SBI(2006-07)	29.27%	0.43	0.01	0	1	0				
37	{X} SBI(2007-08)	17.86%	0.06	0.01	0.2	1	0				
38	{X} SBI(2008-09)	23.07%	0.02	0	0	1	0				
39	{X} SBI(2009-10)	20.28%	0.05	0.01	0.23	1	0				
40	{X} SBI(2010-11)	19.47%	0.29	0	0	1	0				
41	{X} SCI(2001-02)	479.91%	0	0	0	1	489 (1.00)	1.89	0.16	0.06	0
42	{X} SCI(2002-03)	372.13%	0	0.31	5.02	1	451 (0.01) 452 (0.06) 489 (0.93)	1.14	0	0	0
43	{X} SCI(2003-04)	184.96%	0	0	0	1	489 (1.00)	3.06	0.2	0.06	0
44	{X} SCI(2004-05)	81.67%	0	0	0	1	0				
45	{X} SCI(2005-06)	111.27%	0	0	0	1	489 (1.00)	3.55	0.22	0.01	0
46	{X} SCI(2006-07)	85.75%	0	0.1	1.2	1	0				
47	{X} SCI(2007-08)	95.76%	0	0.12	1.38	1	0				
48	{X} SCI(2008-09)	120.17%	0	0.15	1.76	1	451 (0.07) 452 (0.16) 489 (0.78)	2.46	0	0	0
49	{X} SCI(2009-10)	160.17%	0	0.32	3.03	1	451 (0.17) 452 (0.26) 489 (0.57)	1.8	0	0	0
50	{X} STC(2010-11)	92.94%	0	0.24	1.89	1	0				

******