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Capital Structure Practices of Dpsus in India: An Analysis

Dr.(CMA) Bholanath Mandal
Assistant Professor & HOD,Commerce
Nims university,Rajasthan,jaipur

1.0 Introduction

In finance, Capital Structure refers to the way a corporation finances its assets through some combination of equity, debt, or hybrid securities. A firm's capital structure is then the composition or 'structure' of its liabilities. It is a mix of a company's long-term debt, specific short-term debt, common equity and preferred equity. The capital structure is how a firm finances its overall operations and growth by using different sources of funds. Debt comes in the form of bond issues or long-term notes payable, while equity is classified as common stock, preferred stock or retained earnings. Short-term debt such as working capital requirements is also considered to be part of the capital structure.

The term capital structure refers to the age of capital (money) at work in a business by type. Broadly speaking, there are two forms of capital: owned capital and debt capital. Each has its own benefits and drawbacks and a substantial part of wise corporate stewardship and management is attempting to find the perfect capital structure in terms of risk / reward payoff for shareholders. This is true for fortune 500 companies and for small business owners trying to determine how much of their startup money should come from a bank loan without endangering the business.

Owned capital: This refers to money put up and owned by the shareholders (owners). Typically, owned capital consists of two types: (i) contributed capital, which is the money that was originally invested in the business in exchange for shares i.e. preference and equity or ownership and (ii) retained earnings, which represents profits from past years that have been kept by the company and used to strengthen the balance sheet or fund growth, acquisitions, or expansion. Many consider equity capital to be the most

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expensive type of capital a company can utilize because it's "cost" is the return the firm must earn to attract investment.

The corporate finance decisions are of paramount importance for every business organization. Such decisions of the Corporate Management necessarily affect directly or indirectly the creation of wealth for the investors. The corporate finance decisions in Public Sector Undertakings (PSUs) not only affect the financial soundness of the concerned PSU, but also affect the financial health of the nation as whole, as the money invested belongs to the public.

1.1 Concept of Capital Structure

The capacity of a firm to operate its activities is based on the availability of funds. Normally, these funds in finance literature are termed as long term funds, which are contributed by owners (shareholders) and outsiders. The owners'funds are represented by equity contributions and internally generated financial resources. A unique characteristic of procuring funds is that a firm may tap any of these sources and hence the blend of these different sources of long term funds is termed as capital structure in finance literature. Capital structure ordinarily implies the proportion of debt and equity in the total capital of a firm. In the term, capital structure,' capital refers to long term funds and structure refers to the proportion of debt and equity in capital. Further, capital is easily comprehended through accounting as the difference between total assets and current liabilities, and this residual difference is always represented by debt and equity.
This capital is supplied by long and short term borrowings, the sole of preferred and common stock and the reinvestment of earnings. He further states that, in analyzing the capital structure of an enterprise, short term debt is often excluded from considerations'. Many others include only long term sources of funds under the capital structure.

1.1.1Capital Structure-Its Importance

Financial strategy is of great importance in any business organization. The strategic decisions are taken by the corporate management committee i.e at the board level. These

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decisions are not specific in nature but to undertake a project or not, decision regarding the rate of interest at which funds need to be borrowed etc. Generally, three types of policies are taken up under the purview of financial strategy. They are (i) Capital Structure decisions, (ii) Dividend Policy and (iii) Capital Budgeting policy. Among them, the Capital Structure Policy is of great importance. The Capital structure decisions involve the following:

a) The proportion of debt and equity of the company.
b) The proportion of the long term debt to short term debt.
c) Whether equity finance is to be raised through the rights issue or through primary issue.
d) Whether the internal funds be used to finance the company's activities or not.

The decision related to the Capital Structure is a significant one. This involves shareholder's wealth creation. This affects the market value of the shares. The capital structure decision being a continuous process, the shape of the same changes from time to time as per the requirement of the business. The change in the capital structure affects the debt-equity proportion, which also changes the cost of capital. Subsequently this affects the value of the company. Further, the capital structure policy and dividend policy are interdependent. The Dividend policy is based upon the profits available for business expansion. Retention of profits from internal source strengthens the shareholders equity position. Broadly, the capital structure has the influence on (i) net profit, (ii) earnings per share (iii) dividend payout (iv) the cost of capital and (v) the liquidity position of the company. As of now, there is no specific model on capital structure.

1.1.2 Components of Capital Structure

The capital structure is a part of the financial structure which relates to the long term sources of capital. The capital structure constitutes both owned capital and borrowed capital. The owned capital include Equity Capital, Preference Capital and retained earnings. The borrowed capital is in the form of debentures, term loans and

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public deposits. Each of these components has impact on the financial performance of the company.

(i) **Equity Capital-** This is the capital subscribed by the equity Shareholders for carrying out business. As the business grows, the earning will grow and vice versa. It is advantageous to have Equity shares since it has no costs to the company. But of late the Government has made 20% of the equity as dividend mandatory which has made the equity capital costlier than other source.

(ii) **Preference Share Capital-**This category of shares enjoys preferences over interest as well as repayment of their capital amount from the business. The cost of the preference share impacts the business performance

(iii) **Retained earnings-**This represents the earnings which is retained after payment of dividend and taxes from the net profit of the business. This helps in expansion of the business.

(iv) **Debentures-**This is the bonds issued against long term loans by the company. This secures a specific percent of interest which has the impact on profitability of the business.

(v) **Term Loans-**This is loan available from the market for more than one year. This happens with some interest which are payable on regular basis as per the loan condition. This has the impact on the performance of the business.

(vi) **Public Deposits-**This is the deposits being invited from the public by a listed company with certain mandatory guidelines. This has specific cost with regard to raising of fund, management of fund and payment of interest and principal etc. this has the impact of the profitability of the company.

1.2 Capital Structure Practices in DPSUs: An Analysis

However, in the context of PSU financing in India, an 'ABC' trend is observed. 'A' stands for assistance. During the initial setting up of PSUs, the Central Government provides funds in the form of equity to these units; i.e. as and when necessary without taking into

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account the end use of such funds. Then the budgetary support i.e. 'B', as per the Government provisions being made for PSUs in the country's annual budget. The budgetary support to PSUs remained the major source of financing till 1985. The 'C' has come when the Government permitted the PSUs to tap the market through bonds. Now we find the PSUs are tapping equity both in the domestic and international markets 'C' in the trend.

An attempt has been made by the researcher to analyze the Capital structure of DPSUs considering three important ratios such as (1) Debt to equity (D/E) ratio (2) Debt to total assets (D/TA) ratio and (3) Total assets to equity ratio or Asset to net worth ratio.

(1) Debt to Equity (D/E) ratio:

This ratio is calculated to measure the claims of outsiders (total debts) and the owners (shareholders' equity) against the DPSUs assets. Here debt includes both short and long term. This ratio brings out the relationship between the external equities (outsiders fund) with that of internal equities (shareholders' Fund). A high debt/equity ratio indicates that the organization has been aggressive in financing its growth with debt. This will result in additional earnings due to the additional interest expense. If debt fund is used to finance increased operations (high debt to equity), the organization could potentially generate more earnings than it would have earned without this outside fund.

A cost benefit analysis is very much required to compare the cost of the debt against the benefit being derived. If the earnings are greater than the debt cost (interest etc), then the shareholders benefit as more earnings are being spread among the same amount of shareholders. It reveals the claims of creditors and shareholders against the assets of the firm that is comparative proportion of debts and equity. This ratio of DPSUs as ascertained from the financial statements is given below.

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Table 1.1

Debt to Equity Ratio of DPSUs

DPSUs	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Average	S.D	Covar	Min	Max
BDL	4.19	3.43	3.13	3.17	3.12	3.60	4.27	3.95	8.26	7.76	4.49	1.91	42.45	3.12	8.26
BEL	2.15	2.28	1.71	1.53	1.25	1.15	1.23	1.14	1.63	1.64	1.57	0.40	25.49	1.14	2.28
BEML	2.17	2.01	1.91	1.42	1.19	0.98	1.17	1.16	0.99	1.27	1.43	0.44	30.72	0.98	2.17
GSL	1.39	1.19	1.22	1.96	3.29	3.66	3.64	3.04	1.70	1.49	2.26	1.03	45.51	1.19	3.66
GRSE	9.28	8.27	7.24	5.19	4.80	4.49	4.40	4.52	4.55	5.59	5.83	1.78	30.52	4.40	9.28
HAL	4.46	5.00	6.30	7.23	7.68	6.61	5.72	4.68	4.37	3.87	5.59	1.31	23.46	3.87	7.68
MDL	9.00	11.72	13.65	18.85	20.81	21.38	19.42	16.42	18.49	15.04	16.48	4.08	24.75	9.00	21.38
MIDHANI	0.57	0.76	1.02	1.04	1.54	1.78	1.65	1.68	1.63	1.71	1.34	0.45	33.38	0.57	1.78
DPSUs-avg	4.15	4.33	4.52	5.05	5.46	5.46	5.19	4.57	5.20	3.90	4.78	0.56	11.69	3.90	5.46
Std Dev.	3.34	3.85	4.37	5.98	6.57	6.70	5.99	5.00	5.89	4.75	5.05	1.16	22.90	3.34	6.70
Covar	80.53	88.79	96.62	118.38	120.41	122.84	115.43	109.28	113.10	121.81	105.52	206.75	195.94	80.53	122.84
Min	0.57	0.76	1.02	1.04	1.19	0.98	1.17	1.14	0.99	1.27	1.34	0.40	30.00	0.57	1.78
Max	9.28	11.72	13.65	18.85	20.81	21.38	19.42	16.42	18.49	15.04	16.48	4.08	24.75	9.00	21.38

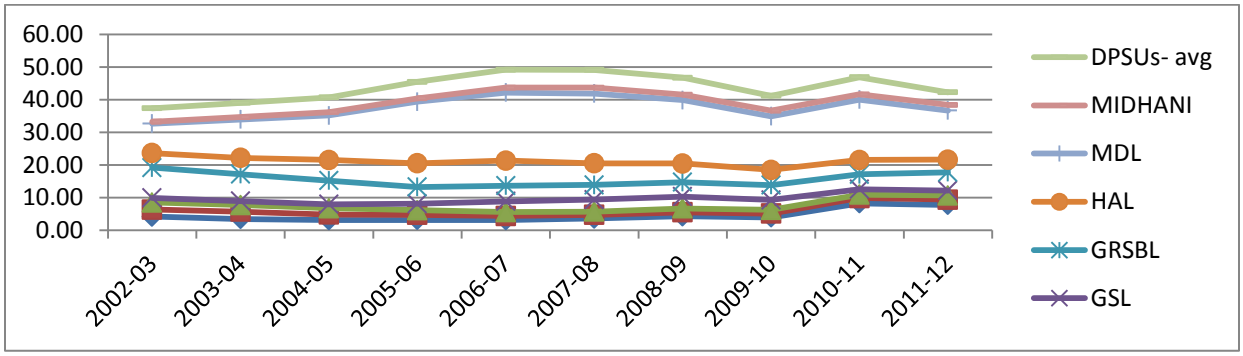
Source: computation based on Annual Reports of DPSUs

The above table shows ratios computed based on the actual data available of all the eight DPSUs for various years. The ratios have been calculated on time basis. The table shows the ratios for the individual companies with their respective Average, Standard Deviation, Co-variance, the Minima and the Maxima over the years. The table also shows the Average, Standard Deviation, Co-variance, the Minima and the Maxim of the DPSUs as a whole for individual years to facilitate the study. The above data is presented in the following graph.

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Figure – 1.1

Debt to equity Ratio of DPSUs



Source: compiled from the annual reports of DPSUs

An analysis of data (see Table 1.1 & Figure 1.1) reveals the Total debt/equity ratio of all individual DPSUs and the DPSUs average for the years from 2002-03 to 2011-12 as given below:

BDL: The Total debt/equity ratio was 4.19 times in the year 2002-03 and it decreased to 3.43 in the year 2003-04. It then decreased to 3.13 times in the year 2004-05 and increased to 3.17 times in the year 2005-06. The ratio decreased to 3.12 times in 2006-07. It again increased from 3.60 times to 4.27 times from the year 2007-08 to 2008-09. Afterwards it decreased to 3.95 times in the year 2009-10. Again in 2010-11 it increased to 8.26 times and in 2011-12, it further decreased to 7.76 times. The Minima and Maxima of the ratio were 3.12 and 8.26 respectively. The ratio for average of BDL was 4.49 times, standard deviation was 1.91 and the covariance was 42.45. The average of the company is less than the DPSUs average of 4.78 but more than the industry average (0.87) showing higher risk to the creditors which indicates more dependence on outsiders' fund when compared with the Industry.

BEL: The Total debt/equity ratio was 2.15 times in the year 2002-03 and it then increased to 2.28 times in the year 2003-04. It then kept decreasing from 1.71 times to 1.15 times

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during the years from 2004-05 to 2007-08.It further increased to 1.23 times in the year 2008-09 and again decreased to 1.14 times in 2009-10. It again increased to 1.63 times and 1.64 times in the years 2010-11 & 2011-12respectively. The Minima and Maxima of the ratio were 1.15 and 2.32 respectively. The ratio for BEL average was 1.57 times, standard deviation was 0.40 and the covariance was 25.99. The company shows slow decrease in the ratio over the years with fluctuations. The ratio is less than the DPSUs average of 4.78 but more than the industry average (0.25) showing higher risk to the creditors which indicates more dependence on outsiders' fund when compared with the Industry.

BEML: The Total debt/equity ratio was 2.17 times in the year 2002-03 and it then kept decreasing from 2.01 times to 0.98 times during the years from 2003-04 to 2007-08. It then increased to 1.17 times in the year 2008-09 and decreased to 0.99 times from in the year 2010-11. It further increased to 1.27 in the year of 2011-12. The Minima and Maxima of the ratio were 0.98 and 2.17 respectively. The ratio for BEML average was 1.43 times, standard deviation was 0.44 and the covariance was 30.72. The company shows decrease in the ratio over the years with fluctuations. The ratio is less than the DPSUs average of 4.78 but more than the industry average (1.20) showing higher risk to the creditors which indicates more dependence on outsiders' fund when compared with the Industry.

GSL: .The Total debt/equity ratio was 1.39 times in the year 2002-03 and it decreased to 1.19 times in the year 2003-04. It then kept increasing from 1.22 times to 3.66 times in the years 2004-05 to 2007-08 and also decreased from 3.64 times to 1.49 times during the years 2008-09 to 2011-12. The Minima and Maxima of the ratio were 1.19 and 3.66 respectively. The ratio for GSL average was 2.26 times, standard deviation was 1.03 and the covariance was 45.51. The company shows slow increases in the ratio over the years with fluctuations. The ratio is less than the DPSUs average of 4.78 but more than the industry average (1.20) showing higher risk to the creditors which indicates more dependence on outsiders' fund when compared with the Industry.

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GRSE: The Total debt/equity ratio was 9.28 times in the year 2002-03 and it then kept decreasing from 8.27 times to 4.40 times during the year 2003-04 to 2008-09. It then increased to 4.52 times in the year 2009-10 and further increased to 4.55 & 5.59 times in 2010-11 & 2011-12 respectively. The Minima and Maxima of the ratio were 4.40 and 9.28 respectively. The ratio for GRSE average was 5.83 times, standard deviation was 1.78 and the covariance was 30.52. The company shows decrease in the ratio over the years with fluctuations. The ratio is more than the DPSUs average of 4.87 but more than the industry average (1.20) showing higher risk to the creditors which indicates more dependence on outsiders' fund when compared with the Industry.

HAL: The Total debt/equity ratio was 4.46 times in the year 2002-03 and it then kept increasing from 5.00 times to 7.68 times in the year 2003-04 to 2006-07. It then started decreasing from 6.61 times to 4.37 times during the years 2007-08 to 2011-12. The Minima and Maxima of the ratio were 3.87 and 7.68 respectively. The ratio for HAL average was 5.59 times, standard deviation was 1.31 and the covariance was 23.46. The company shows slow decrease in the ratio over the years with fluctuations. The ratio is more than the DPSUs average of 4.78 but more than the industry average (1.50) showing higher risk to the creditors which indicates more dependence on outsiders' fund when compared with the Industry.

MDL: The Total debt/equity ratio was 9.00 times in the year 2002-03 and it then kept increasing from 11.72 times to 21.38 times in the years from 2003-04 to 2007-08. It then decreased from 21.38 times to 16.42 times in the year 2009-10. It then increased to 18.49 times in the year 2010-11 & decreased to 15.03 in the year of 2011-12. The Minima and Maxima of the ratio were 9.00 and 21.38 respectively. The ratio for MDL average was 16.48 times, standard deviation was 4.08 and the covariance was 24.75. The company shows increases in the ratio over the years with fluctuations. The ratio is more than the DPSUs average of 4.78 but more than the industry average (1.20) showing higher risk to

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the creditors which indicates more dependence on outsiders' fund when compared with the Industry.

MIDHANI: The Total debt/equity ratio was 0.57 times in the year 2002-03 and it kept increasing from 0.76 times to 1.78 times during the years from 2003-04 to 2007-08. It then decreased to 1.65 times in the year 2008-09 and further increased to 1.68 times in 2009-10. There after it decreased to 1.63 times in the year 2010-11 & it further increased to 1.71 times in the year of 2011-12. The Minima and Maxima of the ratio were 0.57 and 1.78 respectively. The ratio for MIDHANI average was 1.34 times, standard deviation was 0.45 times and the covariance was 33.38. The company shows slow increases in the ratio over the years with fluctuations. The ratio is less than the DPSUs average of 4.78 and the industry average (2.99) showing lower risk to the creditors which indicates less dependence on outsiders' fund when compared with the Industry.

(2) Debt to Total Assets (D/TA) Ratio

The total debt ratio indicates that how much the organization is in debt. It is an excellent way to check an organization in long-term solvency analysis. The formula for the Total Debt Ratio considered is: Total debt/Total Assets**.** The lower the debt ratio, the less the total debt of the organization. In case the organization has a high total debt ratio, it is at risk of becoming insolvent or going bankrupt. The creditors take much interest in this ratio that the organization has an opportunity to use leverage as a means of responsibly growing the business. This ratio of DPSUs as ascertained from the financial statements is given below. The debt ratio generally quantifies how leveraged an organization is? This ratio for an organization is the degree of leverage for a measuring the risk. When the debt ratio is high, it indicates that organization has a lot of debt related to its assets. Thus it will carry a higher burden in the sense that the repayment principal and interest take a major amount of cash flows and a financial nuisance may arise in case of default in payment of interest.

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Table – 1.2

Debt to total Assets Ratio of DPSUs

DPSUs	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Average	S.D	Covar	Min	Max
BDL	0.81	0.78	0.77	0.77	0.79	0.78	0.81	0.80	0.91	0.89	0.81	0.05	5.95	0.77	0.91
BEL	0.70	0.71	0.65	0.62	0.57	0.55	0.56	0.54	0.63	0.630	0.62	0.06	9.83	0.54	0.71
BEML	0.70	0.68	0.67	0.59	0.55	0.50	0.54	0.54	0.50	0.56	0.58	0.07	12.84	0.50	0.70
GSL	0.59	0.54	0.55	0.66	0.77	0.79	0.78	0.75	0.63	0.59	0.67	0.10	14.75	0.54	0.79
GRSE	0.90	0.89	0.88	0.84	0.83	0.82	0.82	0.82	0.82	0.84	0.85	0.03	3.81	0.82	0.90
HAL	0.90	0.93	0.95	0.94	0.94	0.91	0.89	0.86	0.84	0.79	0.90	0.05	5.70	0.79	0.95
MDL	0.93	0.94	0.94	0.95	0.96	0.96	0.95	0.94	0.95	0.93	0.94	0.01	1.05	0.93	0.96
MIDHANI	0.37	0.43	0.51	0.51	0.61	0.64	0.62	0.63	0.62	0.63	0.56	0.10	17.23	0.37	0.64
DPSUs-Avg	0.74	0.74	0.74	0.74	0.75	0.74	0.75	0.74	0.74	0.80	0.75	0.02	2.57	0.74	0.80
Std Dev.	0.19	0.19	0.17	0.17	0.16	0.17	0.15	0.15	0.16	0.15	0.17	0.01	8.65	0.15	0.19
Covar	25.79	25.01	23.32	22.50	21.32	22.36	20.55	20.37	21.93	18.35	22.15	74.36	335.70	18.35	25.79
Min	0.37	0.43	0.51	0.51	0.55	0.50	0.54	0.54	0.50	0.56	0.50	0.01	1.97	0.37	0.56
Max	0.93	0.94	0.95	0.95	0.96	0.96	0.95	0.94	0.95	0.93	0.95	0.10	10.39	0.93	0.96

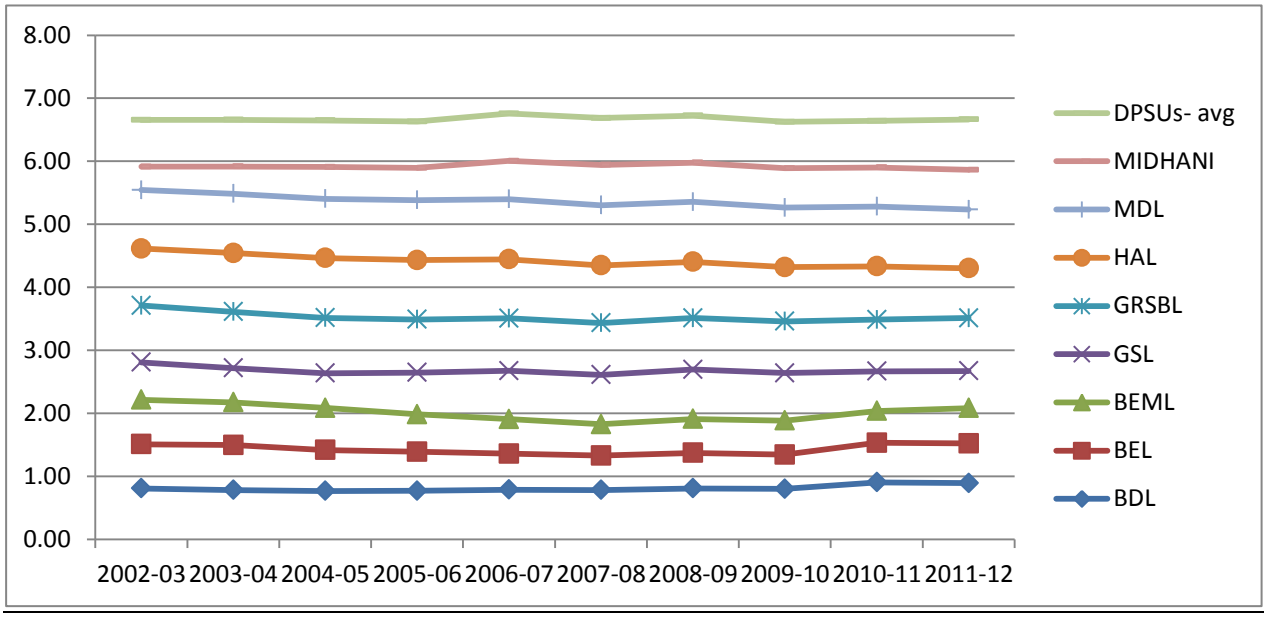
Source: computation based on Annual Reports of DPSUs

The above table shows ratios computed based on the actual data available of all the eight DPSUs for various years. The ratios have been calculated on time basis. The table shows the ratios for the individual companies with their respective Average, Standard Deviation, Co-variance, the Minima and the Maxima over the years. The table also shows the Average, Standard Deviation, Co-variance, the Minima and the Maxima of the DPSUs. The above data is presented in the following graph.

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Figure – 1.2

Debt to total Assets Ratio of DPSUs



Source: compiled from the annual reports of DPSUs

An analysis of data (see Table 4.2 & Figure 4.2) reveals the Total debt/total assets ratio of all individual DPSUs and the DPSUs average for the years from 2002-03 to 2011-12 as given below:

BDL: The Total debt/total assets ratio was 0.81 times in the year 2002-03 and it decreased from 0.78 times to 0.77 times from the year 2003-04 to the years 2004-05, 2005-06. It then slightly increased to 0.79 times in the year 2006-07 and further decreased to 0.78 times in the year 2007-08. It increased to 0.81 times in the year 2008-09 and again it decreased to 0.80 times in the year 2009-10. Afterwards, it further increased to 0.91 times in the year 2010-11 and it further decreased to 0.89 in the year of 2011-12. The Minima and Maxima of the ratio were 0.77 and 0.91 respectively. The ratio for BDL average was 0.81 times, standard deviation was 0.05 and the covariance was 5.95. The company shows increases

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in the ratio over the years with fluctuations. Industry norm of the ratio 0.57. The Company shows the ratio more than the industry norm as well as the DPSUs average (0.75) indicating that the company has used more outsiders' funds to resource its assets.

BEL: The Total debt/total assets ratio was 0.70 times in the year 2002-03 and it increased slightly to 0.71 times in the year 2003-04. It then decreased from 0.65 times to 0.55 times in the year 2004-05 to 2007-08. Further it increased to 0.56 times in the years 2008-09 and decreased to 0.54 times in the year 2009-10. It then increased to 0.63 times in the year 2010-11 to 2011-12 .The Minima and Maxima of the ratio were 0.54 and 0.71 respectively. The ratio for BEL average was 0.62 times, standard deviation was 0.06 and the covariance was 9.83. The company shows decrease in the ratio over the years with fluctuations. The DPSUs average is the 0.75 times. The Company shows the ratio less than the DPSUs average and but more than the industry average (0.60) indicating that the company has used correct level of outsiders' funds to resource its assets.

BEML: The Total debt/total assets ratio was 0.70 times in the year 2002-03 and it kept decreasing from 0.68 times to 0.50 times in the year 2003-04 to 2007-08.Then increased to 0.54 times in the year 2008-09 & 2009-10. Further there was decrease to 0.50 times in the years 2010-11 & further it is increased to 0.56 in the year of 2011-12. The Minima and Maxima of the ratio were 0.50 and 0.70 respectively. The ratio for BEML average was 0.58 times, standard deviation was 0.07 and the covariance was 12.84. The DPSUs average is the 0.75 times. The Company shows the ratio less than the DPSUs average indicating but more than the industry average (0.54) showing higher risk to the creditors which indicates more dependence on outsiders' fund when compared with the Industry that the company has used less outsiders' funds to resource its assets.

GSL: The Total debt/total assets ratio was 0.59 times in the year 2002-03 and decreased to 0.54 times in the year 2003-04.Then it kept increasing from 0.55 times to 0.79 times in the

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year 2004-05 to 2007-08 respectively. A slight decrease of ratio is seen from 0.78 times to 0.63 times in the years 2008-09 to 2010-11 respectively and further decreased to 0.59 in the year of 2011-12. The Minima and Maxima of the ratio were 0.54 and 0.79 respectively. The ratio for GSL average was 0.67 times, standard deviation was 0.10 and the covariance was 14.75. Industry norm of the ratio is 0.53 . The Company shows the ratio more than the acceptance level as well as the DPSUs average (0.75) indicating that the company has used more outsiders' funds to resource its assets.

GRSE The Total debt/total assets ratio was 0.90 times in the year 2002-03 and it kept decreasing from 0.89 times to 0.82 times during the years 2003-04 to 2010-11 and it further increased to 0.85 in the year of 2011-12. The Minima and Maxima of the ratio were 0.82 and 0.90 respectively. The ratio for GRSE average was 0.85 times, standard deviation was 0.03 times and the covariance was 3.81.The Company shows the ratio more than the industry level as well as the DPSUs average (0.75) indicating that the company has used more outsiders' funds to resource its assets.

HAL: The Total debt/total assets ratio was 0.90 times in the year 2002-03 and it kept increasing to 0.93 times and 0.95 times the years 2003-04 to 2004-05 respectively. A slight decrease of ratio is seen from 0.94 times to 0.84 times during the years from 2005-06 to 2010-11 and further increased to 0.79 in the year of 2011-12. The Minima and Maxima of the ratio were 0.79 and 0.95 respectively. The ratio for HAL average was 0.90 times, standard deviation was 0.05 and the covariance was 5.70. Acceptable levels of the ratio, in percentage terms, range is0.27.. The Company shows the ratio more than the acceptance level as well as the DPSUs average (0.75) indicating that the company has used more outsiders' funds to resource its assets.

MDL: The Total debt/total assets ratio was 0.93 in the year 2002-03 and it increased to 0.94 times in the year 2003-04 and 2004-05. In the year 2005-06 it reduces to 0.95 times.

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During the next two years of 2006-07 and 2007-08, it maintained the ratio at 0.96 times. A slight decrease of ratio is seen from 0.95 times to 0.94 times in the year from 2008-09 to 2009-10. Afterwards it increased to 0.95 times in the year 2010-11 and further increased to 0.94 times in the year of 2011-12. The Minima and Maxima of the ratio were 0.93 and 0.96 respectively. The ratio for MDL average was 0.94 times, standard deviation was 0.01 and the covariance was 1.05.industry norm of the ratio is 0.53. The Company shows the ratio more than the acceptance level as well as the DPSUs average (0.75) indicating that the company has used more outsiders' funds to resource its assets.

MIDHANI: The Total debt/total assets ratio was 0.37 times in the year 2002-03 and it kept increasing from 0.43 times to 0.64 times in the years from 2003-04 to 2007-08. The ratio decreased in the year 2008-09 to 0.62 times and again slightly increased of 0.63 times in the years 2009-10. Again it is decreased to 0.62 times, in the years 2010-11 and further it increased to 0.63 in the year of 2011-12 respectively. The Minima and Maxima of the ratio were 0.37 and 0.64 respectively. The ratio for MIDHANI average was 0.56 times, standard deviation was 0.10 and the covariance was 17.23. The DPSUs average is the 0.75 times. The Company shows the ratio less than the DPSUs but more than the industry average (0.46) indicating that the company has used more outsiders' funds to resource its assets.

(3) Total Assets to Equity Ratio

The Total Asset-to-Equity Ratio is a financial ratio that takes the organization total assets and divides them by its total equity. This ratio is used to measure organization leverage. This is a measure of the total debt a company takes to acquire assets. Equity is the amount of the enterprise that the shareholders own. Equity is the total assets minus the total liabilities. The total asset shows how much of the assets the organization has possessed. This ratio will measure the solvency in the long run; receive in the event of a company-wide liquidation and to meet its financial needs. Asset-to-equity ratio requires

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computation of multiple ratios at different times. These ratios are then used to show trends within the organization. The organization may look to see if the asset to equity ratio is consistent over a period of time. The results of this analysis are used to make financial decisions regarding additional incurring of debt through increased equity this ratio of DPSUs as ascertained from the financial statements are given below.

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Table – 1.3

Total Assets to Equity Ratio of DPSUs

DPSUs	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Average	S.D	Covar	Min	Max
BDL	5.17	4.38	4.07	4.12	3.94	4.59	5.27	4.92	9.12	8.69	5.43	1.89	34.84	3.94	9.12
BEL	3.07	3.21	2.64	2.47	2.19	2.10	2.20	2.11	2.60	2.60	2.52	0.39	15.42	2.10	3.21
BEML	3.08	2.95	2.86	2.39	2.17	1.97	2.16	2.14	1.97	2.24	2.39	0.41	17.30	1.97	3.08
GSL	2.34	2.19	2.22	2.96	4.29	4.66	4.64	4.04	2.70	2.49	3.25	1.03	31.73	2.19	4.66
GRSE	10.28	9.27	8.24	6.15	5.77	5.47	5.39	5.51	5.55	6.60	6.82	1.79	26.21	5.39	10.28
HAL	4.94	5.36	6.63	7.68	8.19	7.24	6.42	5.43	5.18	4.88	6.20	1.21	19.50	4.88	8.19
MDL	9.68	12.48	14.55	19.77	21.77	22.38	20.42	17.42	19.49	16.01	17.40	4.18	24.00	9.68	22.38
MIDHANI	1.53	1.75	2.02	2.04	2.54	2.78	2.65	2.68	2.63	2.72	2.33	0.46	19.53	1.53	2.78
DPSUs-avg	5.01	5.20	5.40	5.95	6.36	6.40	6.14	5.53	6.15	4.90	5.70	0.56	9.90	4.90	6.40
Std Dev.	3.30	3.78	4.32	5.93	6.56	6.70	5.99	5.00	5.88	4.74	5.02	1.17	23.32	3.30	6.70
Covar	65.84	72.78	79.98	99.80	103.09	104.72	97.49	90.47	95.61	96.76	88.07	207.53	235.65	65.84	104.72
Min	1.53	1.75	2.02	2.04	2.17	1.97	2.16	2.11	1.97	2.24	2.33	0.39	16.64	1.53	2.78
Max	10.28	12.48	14.55	19.77	21.77	22.38	20.42	17.42	19.49	16.01	17.40	4.18	24.00	9.68	22.38

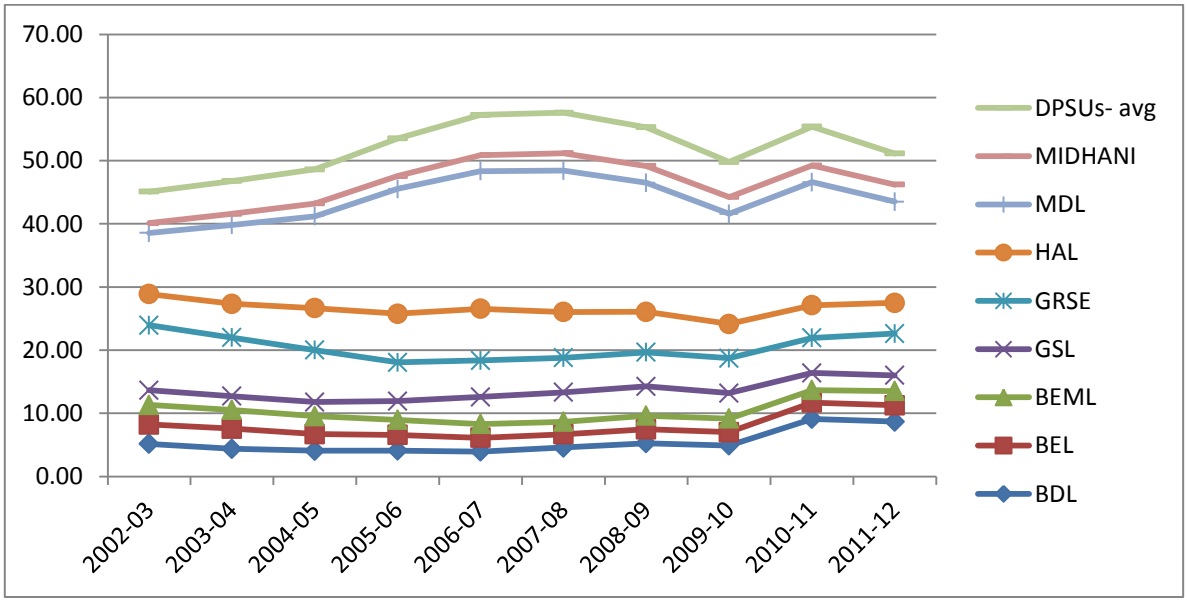
Source: computation based on Annual Reports of DPSUs

The above table shows ratios computed based on the actual data available of all the eight DPSUs for various years. The ratios have been calculated on time basis. The table shows the ratios for the individual companies with their respective Average, Standard Deviation, Co-variance, the Minima and the Maxima over the years. The table also shows the Average, Standard Deviation, Co-variance, the Minima and the Maxima of the DPSUs as a whole for individual years to facilitate the study. The above data is presented in the following graph

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Figure – 1.3

Total Assets to Equity Ratio of DPSUs



Source: compiled from the annual reports of DPSUs

An analysis of data (see Table 1.3 & Figure 1.3) reveals the total debt/Equity ratio of all individual DPSUs and the DPSUs average for the years from 2002-03 to 2011-12 as given below:

BDL: The total debt/Equity ratio was 5.17 times in the year 2002-03 and it increased from 4.38 times to 4.07 times in the year from 2003-04 to 2004-05. It then increased to 4.12 times in the year 2005-06 and decreased to 3.94 times in 2006-07. It again decreased from 4.59 times to 5.27 times in the year from 2007-08 to 2008-09. Then, it decreased to 4.92 times and 9.12 times in the year 2009-10 and 2010-11 respectively. It further decreased to 8.69 times in the year 2011-12. The Minima and Maxima of the ratio were 3.94 and 9.12 respectively. The ratio for BDL average was 5.43 times, standard deviation was 1.89 and the covariance was 34.84. The DPSUs average is the 5.70 times. The Company shows the ratio less than the DPSUs average and industry average(2.15)indicating that the company has used less outsiders' funds to resource

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its assets. The high asset/equity ratio points out that the company is wisely "trading on the equity".

BEL: The total debt/Equity ratio was 3.07 times in the year 2002-03 and it increased to 3.21 times in the year 2003-04. It then kept decreasing from 2.64 times to 2.10 times during the year 2004-05 to 2007-08 and again increased to 2.20 times in 2008-09. It further decreased to 2.11 times in the year 2009-10. Then it increased to 2.60 times in the year 2010-11 and had slightly decreased to 2.60 times in the year 2011-12. The Minima and Maxima of the ratio were 2.10 and 3.21 respectively. The ratio for BEL average was 2.52 times, standard deviation was 0.39 and the covariance was 15.42. The DPSUs average was 5.70 times. The Company shows the ratio less than the DPSUs average and industry average(2.15) indicating that the company has used less outsiders' funds to resource its assets. The high asset/equity ratio points out that the company is wisely "trading on the equity".

BEML: The total debt/Equity ratio was 3.08 times in the year 2002-03 and it then kept decreasing from 3.08 times to 1.97 times during the years from 2003-04 to 2007-08. It then increased to 2.17 times in the year 2008-09 and decreased from 2.16 times to 1.97 times in the years from 2009-10 to 2010-11. Afterwards, it again increased to 2.24 times in the year 2011-12.The Minima and Maxima of the ratio were 1.97 and 3.08 respectively. The ratio for BEML average was 2.39 times, standard deviation was 0.41 and the covariance was 17.30. The DPSUs average is the 5.70 times. The Company shows the ratio less than the DPSUs average and industry average(2.15) indicating that the company has used less outsiders' funds to resource its assets. The company shows slow decrease in the ratio over the years with fluctuations. The high asset/equity ratio points out that the company is wisely "trading on the equity".

GSL: The total debt/Equity ratio was 2.34 times in the year 2002-03 and it decreased to 2.19 times in the year 2003-04. It then kept increasing from 2.22 times to 4.66 times from the year 2004-05 to 2007-08 and then decreased from 4.64 times to 2.49 times in

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the year 2008-09 to 2011-12. The Minima and Maxima of the ratio were 2.19 and 4.66 respectively. The ratio for GSL average was 3.25 times, standard deviation was 1.03 and the covariance was 31.73. The DPSUs average is the 5.70 and industry average(2.20) times. The Company shows the ratio less than the DPSUs average indicating that the company has used less outsiders' funds to resource its assets. The company shows slow decrease in the ratio over the years with fluctuations. The high asset/equity ratio points out that the company is wisely "trading on the equity".

GRSE: The total debt/Equity ratio was 10.28 times in the year 2002-03 and it then kept decreasing from 9.27 times to 5.39 times during the years 2003-04 to 2008-09. It then increased from 5.51 times to 6.60 times from the year 2009-10 to 2011-12. The Minima and Maxima of the ratio were 5.39 and 10.28 respectively. The ratio for GRSE average was 6.82 times, standard deviation was 1.79 and the covariance was 26.21. The DPSUs average is the 5.70 times. The Company shows the ratio more than the DPSUs average (6.82) and industry average(2.20)indicating that the company has used more outsiders' funds to resource its assets. The company shows increases in the ratio over the years with fluctuations. The high asset/equity ratio points out that the company is wisely "trading on the equity".

HAL: The total debt/Equity ratio was 4.94 times in the year 2002-03 and it then kept increasing from 5.36 times to 8.19 times during the years 2003-04 to 2005-06. It then decreased from 7.24 times to 4.88 times during the years from 2007-08 to 2011-12. The Minima and Maxima of the ratio were 4.88 and 8.19 respectively. The ratio for HAL average was 6.20 times, standard deviation was 1.21 and the covariance was 19.50. The company shows slow decrease in the ratio over the years with fluctuations. The Company shows the ratio more than the DPSUs average (5.7) and industry average(2.50)indicating that the company has used more outsiders' funds to resource its assets. The company shows increases in the ratio over the years with

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fluctuations. The high asset/equity ratio points out that the company is wisely "trading on the equity".

MDL: The total debt/Equity ratio was 9.68 times in the year 2002-03 and it then kept increasing from 12.48 times to 22.38 times during the years 2003-04 to 2007-08. It then decreased to 17.42 times during the years 2009-10 and again increased to 19.49 times in 2010-11. Further it decreased to 16.01 times in the year 2011-12. The Minima and Maxima of the ratio were 9.68 and 22.38 respectively. The ratio for MDL average was 17.40 times, standard deviation was 4.18 and the covariance was 24.00. The company shows slow decrease in the ratio over the years with fluctuations. The Company shows the ratio more than the DPSUs average (5.7) and industry average(2.20)indicating that the company has used more outsiders' funds to resource its assets. The company shows increases in the ratio over the years with fluctuations. The high asset/equity ratio points out that the company is wisely "trading on the equity".

MIDHANI: The total debt/Equity ratio was 1.53 times in the year 2002-03 and it then kept increasing from 1.75 times to 2.78 times during the years 2003-04 to 2007-08. It then decreased to 2.65 times in the year 2008-09 and again increased to 2.68 times in 2009-10. It again decreased to 2.63 times in the year 2010-11. Further it increased to 2.72 times in the year 2011-12. The Minima and Maxima of the ratio were 1.53 and 2.78 respectively. The ratio for MIDHANI average was 2.33 times, standard deviation was 0.46 and the covariance was 19.53. The DPSUs average is the 5.70 times. The Company shows the ratio less than the DPSUs average and industry average (2.99)indicating that the company has used less outsiders' funds to resource its assets. The company shows slow decrease in the ratio over the years with fluctuations. The high asset/equity ratio points out that the company is wisely "trading on the equity".