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CONTRIBUTIONS TO BOOKS

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- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

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FINANCIAL HEALTHINESS OF OIL AND GASES INDUSTRY IN INDIA

S.SOWBARANIKA

Ph.D. RESEARCH SCHOLAR

DEPARTMENT OF COMMERCE

GOVERNMENT ARTS COLLEGE

UDUMALPET

Dr. S. KADIRVELU

ASST. PROFESSOR OF COMMERCE

GOVERNMENT ARTS COLLEGE

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ABSTRACT

Financial health of a company was evaluated easily on the basis of various ratios. Altman developed Z score on the basis of various simple ratios. In this paper the financial healthiness of oil and natural gas sector has been evaluated by using Altman Z score analysis. This paper analysis and forecast the financial healthiness of 6 public sector oil and natural gas companies for 10 years. The data was collected from capital line database and annual report of the company. From the study BPCL, HPCL, Indian Oil Corporation ONGC and OIL INDIA are in too healthy zone. Uncertainty of risk is never accrued. GAIL is in healthy zone. During 2016 it is in bankruptcy zone.

KEYWORDS

oil & gas industry, financial healthiness.

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INTRODUCTION

The oil and natural gas sector was one of the core sectors among 6 core sector in India. It was founded by industrial policy resolution 1954. It was under ministry of petroleum and natural gas. It plays a major role in decision making which influencing to all the other important sector of the economy. GDP contribution by this sector was 15%.

There is an increasing gap between demand and supply of India's gas. There are several policies were formed to fulfill increasing demand. The new exploration licensing policy (NELP) was envisaged in 1997-1998. 100% FDI was allowed to this sector in many segment included natural gas, petroleum product, refineries and others.

REVIEW OF LITERATURE

Kannadhasan (2007) made a study on measuring financial health of a public limited company using Z score model-A case study over the period 2001-2002 to 2004-2005. Wendt(India) were used for the study. Altman Z score model was used for the study over the period 2004-2005 to 2013-2014. They use random sampling method. They concluded by using Prof Edward Altman Z score that HPCL have very good and sound financial position.

Meherji duvuri (2012) has examined financial health of NFCL-A Z score approach over the period 2001-2011. K.B. Mehta's model was used for the study. Z score was between 0.53 to 1.93 during the study period. It shows that company was in safe zone.

Nilanjana Kumari (2013) made a study on evaluation of financial health of MMTC of India a Z score model over the period of 2007-2008 to 2011-2012. Edward Altman Z score model was used for the study. Z score is ranging from 4.24 to 6.30 during the study period. They concluded that overall financial health of the company is good. It has sound financial health in future.

M.Lahiri (2013) has made a study on measuring the financial health of Indian oil corporation limited using Z-score model covered the period from 2005-2012. He uses Altman's Z score to analysis. The Z score of Indian Oil Corporation is 1.8528 is calculated. It shows that financial health of the company is good.

S.Saravanan and K. Jananai (2015) has made a study on a study on measuring the financial soundness of Bharath petroleum Corporation Limited (BPCL) for the period 2004-2005 to 2014 – 2015 and made an objective to assess the short term and long term solvency, liquidity and profitability position of the company. They use various tools like correlation multiple regression and ANOVA. They concluded that liquidity position was strong. The overall analysis was strong tendency. The profitability was decline in the study period.

Kalaivani and Shunmugananda Vadivel (2015) in their study they analysis financial health analysis of large scale oil and natural gas companies in India with special reference to select oil and natural gas companies. 6 companies were selected for the study over the period of 2005-2006 to 2013-2014. They use Dr. Edward Altman's model for multiple discriminate analysis and they concluded that oil India limited, BPCL and HPCL have excellent financial viability position during the study period.

STATEMENT OF THE PROBLEM

Oil and natural gases industries got an important place in Indian economy. It contributions more to the economy by industrial output, employment opportunity and foreign exchange earnings. It was 2nd largest employment provider in India at present. Oxygen is most essential to human being to live. Finance is like oxygen for business without oxygen human being cannot live without finance business cannot. This is because it was in the modern money oriented economy. Basic foundation of all the economic activity is finance. Financial healthiness of the company is to examine the financial position of the company like doctor diagnose the patient and records the blood pressure, body temperature etc as like that the research examine the financial statement a recorded the financial healthiness. So the study contains to analysis the financial healthiness of oil and gas sector in India.

OBJECTIVE OF THE STUDY

To predict the financial healthiness and viability of the company through Z score (test for bankruptcy)

METHODOLOGY OF THE STUDY

This study is purely based on secondary data. The data was collected from the database capital line and annual report of the companies. 6 public sector companies were selected for the study for 10 years (2006-2007 to 2015-2016). Prof Edward I. Altman multiple discriminate analysis (Z score) has been use for the study.

LIMITATION OF THE STUDY

1. The data used in this will be secondary in nature.
2. The finding is applicable to oil and gases sector. It is not suitable to other industries.

ALTMAN Z SCORE ANALYSIS

To predict financial distress, Edward I Altman's bankruptcy model has been used. Here several ratios that significantly influence the health are computed and a single composite index viz, 'Z' score which takes into 15 accounts the weight influence of different ratios has been developed. This model was given by

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.99X_5$$

Where, X_1 = Working capital / Total Assets

X_2 = Retained Earnings (loss) / Total Assets

X_3 = Earnings before Interest and Taxes (EBIT) / Total Assets.

X_4 = Market value of Equity / Book value of Total Debt.

X_5 = Sales / Total Assets.

ANALYSIS AND INTERPRETATIONS**TABLE 1: Z'SCORE VALUE OF BPCL**

YEAR	X1	X2	X3	X4	X5	Z SCORE
2007	0.06	0.06	0.52	0.02	4.58	5.23
2008	0.16	0.06	0.40	0.02	4.13	4.77
2009	0.04	0.04	0.31	0.01	4.03	4.44
2010	0.19	0.05	0.32	0.01	3.45	4.02
2011	0.06	0.05	0.34	0.01	4.49	4.95
2012	0.20	0.04	0.32	0.01	5.52	6.08
2013	0.23	0.05	0.46	0.02	5.77	6.52
2014	0.11	0.05	0.59	0.02	6.34	7.11
2015	-0.25	0.06	0.72	0.04	6.48	7.04
2016	-0.23	0.10	0.83	0.03	4.27	4.99
MEAN value						5.52

Source: Computed

The above table shows the Z score of BPCL. The mean value is 5.22. It shows that BPCL is in too healthy zone. Uncertainty of risk is never accrued. During the study period of 10 years BPCL have good financial healthy. There is decrease value in the Zscore from 2007 to 2010. From 2011 to 2015 Zscore value is increase. During 2016 Zscore value is decrease compare to previous year. The highest Zscore value is 7.11 during 2004. The lowest Zscore value is 4.02 during 2010. The overall conclusion of financial position of BPCL is excellent during the study period.

TABLE 2: Z'SCORE VALUE OF GAIL

YEAR	X1	X2	X3	X4	X5	Z SCORE
2007	0.30	0.31	0.77	0.40	1.26	3.04
2008	0.37	0.35	0.91	0.43	1.26	3.31
2009	0.31	0.28	0.89	0.68	1.50	3.66
2010	0.22	0.29	0.84	0.55	1.37	3.27
2011	0.05	0.26	0.80	0.35	1.49	2.95
2012	-0.02	0.22	0.65	0.15	1.47	2.46
2013	0.03	0.21	0.60	0.09	1.38	2.32
2014	0.07	0.19	0.58	0.08	1.49	2.42
2015	0.07	0.14	0.37	0.08	1.37	2.04
2016	-0.05	0.14	0.31	0.10	1.28	1.78
MEAN value						2.72

Source: Computed

The above table shows the Z score of GAIL. The mean value is 2.72 its shows that the company is in healthy zone. During 2007 to 2010 the company is in too healthy zone remaining years during 2011-2015 the company is in healthy zone. During 2016 it is in bankruptcy zone. Zscore value is decrease from 2007-2016 except 2009. The highest Zscore value is 3.66 during 2009. The lowest Zscore value is 1.78 during 2016. The overall position of the company has risk in uncertainty it leads to bankruptcy so the company should maintain proper management in finance to make safe.

TABLE 3: Z'SCORE VALUE OF HPCL

YEAR	X1	X2	X3	X4	X5	Z SCORE
2007	0.00	0.05	0.36	0.02	4.46	4.88
2008	0.23	0.04	0.19	0.01	3.85	4.32
2009	0.09	0.04	0.21	0.01	3.75	4.10
2010	0.08	0.05	0.29	0.01	3.31	3.75
2011	0.21	0.05	0.19	0.01	3.18	3.63
2012	0.29	0.04	0.18	0.01	3.67	4.19
2013	0.31	0.03	0.11	0.01	3.84	4.30
2014	0.26	0.04	0.24	0.01	4.06	4.60
2015	0.00	0.05	0.25	0.01	4.57	4.88
2016	0.04	0.07	0.42	0.01	3.62	4.17
MEAN value						4.28

Source: Computed

The above table shows the Z score of HPCL. The mean value is 4.28. Its shows that the company is in too healthy zone. There is no risk for uncertainty. During 2007-2015 HPCL got same Zscore. The HPCL is in too healthy zone but the Zscore value is decreased from the year 2007 to 2011. From 2012 the Zscore value is increasing. In 2016 score value is decrease compare to previous year. In 2012 the HPCL have highest Zscore in 2016 is 4.88. the lowest Zscore value is 3.63 in 2011. From this overall it concluded that financial position is excellent during the study period.

TABLE 4: Z'SCORE VALUE OF INDIAN OIL CORPORATION

YEAR	X1	X2	X3	X4	X5	Z SCORE
2007	0.08	0.09	0.64	0.03	3.49	4.34
2008	0.20	0.08	0.50	0.02	3.22	4.03
2009	0.05	0.05	0.31	0.02	3.45	3.88
2010	0.12	0.10	0.54	0.03	2.83	3.63
2011	0.18	0.07	0.36	0.03	3.06	3.70
2012	0.34	0.05	0.22	0.02	2.81	3.44
2013	0.34	0.05	0.26	0.02	2.94	3.61
2014	0.30	0.06	0.30	0.02	2.89	3.56
2015	0.05	0.05	0.27	0.03	3.15	3.56
2016	0.02	0.09	0.42	0.03	2.44	3.01
MEAN value						3.67

Source: Computed

The above table shows the Z score of Indian Oil Corporation. The mean value is 3.67. It shows that it is in too healthy zone. There is no chance for uncertainty. During the study period of 10 years Indian oil got same Zscore value (3.56) in 2014 and 2015. The Zscore values are decrease from 2007 to 2016 except 2009, 2011 and 2013. These year there is some minor increasing of Zscore value. The highest Zscore value is 4.34 during 2007. The lowest Zscore value is 3.01 during 2016. The overall conclusion of the company financial position is good during the study period.

TABLE 5: Z'SCORE VALUE OF ONGC

YEAR	X1	X2	X3	X4	X5	Z SCORE
2007	0.38	0.63	2.06	0.08	0.74	3.89
2008	0.36	0.62	2.06	0.10	0.72	3.87
2009	0.33	0.56	1.86	0.08	0.67	3.49
2010	0.29	0.61	2.02	0.08	0.58	3.58
2011	-0.03	0.61	2.02	0.15	0.57	3.32
2012	0.03	0.81	2.67	0.57	0.55	4.62
2013	0.00	0.66	2.17	0.00	0.56	3.39
2014	-0.04	0.72	2.37	0.00	0.51	3.56
2015	-0.05	0.64	2.11	1.84	0.48	5.03
2016	-0.09	0.63	2.08	0.00	0.44	3.06
MEAN value						3.78

Source: Computed

The above table shows the Z score of ONGC. The mean value is 3.78. It shows that the company is in too healthy zone. Risk for uncertainty is low. During the study period of 10 years there are many ups and downs in the Zscore value. The values were decreasing during 2009, 2011 and 2013. The highest Zscore value is 5.03 during 2015. The lowest Zscore value is 3.06 during 2016.

TABLE 6: Z'SCORE VALUE OF OIL INDIA

YEAR	X1	X2	X3	X4	X5	Z SCORE
2007	0.82	1.14	1.08	0.69	0.70	4.44
2008	0.70	0.98	1.13	0.72	0.75	4.28
2009	0.72	1.01	1.20	0.77	0.77	4.48
2010	1.01	1.42	0.94	0.60	0.68	4.66
2011	1.06	1.48	0.85	0.54	0.69	4.61
2012	1.17	1.63	0.94	0.60	0.54	4.88
2013	1.38	1.94	0.85	0.54	0.48	5.19
2014	1.43	2.01	0.48	0.31	0.31	4.53
2015	1.05	1.48	0.44	0.28	0.32	3.57
2016	0.33	0.47	0.39	0.25	0.30	1.75
MEAN value						4.24

Source: Computed

The above table shows the Z score of OIL INDIA. The mean value is 4.24. It shows that it is in too healthy zone. During the study period of 10 years oil India have ups and downs in the Zscore value. During 2016 it is in bankruptcy it causes certain to fall. The highest Zscore value is 5.19 during 2013. the lowest Zscore value is 1.75 during 2016. The company Zscore value is decreasing from 2013 to 2016. So precaution measures should take.

FINDINGS

- BPCL, HPCL, Indian Oil Corporation ONGC and OIL INDIA are in too healthy zone. Uncertainty of risk is never accrued.
- GAIL is in healthy zone. During 2016 it is in bankruptcy zone.

CONCLUSION

The financial healthiness is the key for every business firms in taking decisions. The Altman Z score is the best method for finding the financial soundness. The present study analyzes the financial healthiness of Oil and Natural Gas Industries; 10 years period of six companies has been taken for the study. From the study concludes that BPCL, HPCL and Oil India's financial strength is in excellent position. ONGC and Indian Oil's financial strength is in good. GAIL is in uncertainty position hence management should take necessary mitigation action to safe guard their financial health.

IMPORTANT WEBSITES

1. www.capitalline
2. www.bpcl
3. www.gail
4. www.hpcl
5. www.indianoilcorporation
6. www.oilindia
7. www.ongc

REFERENCES

1. Dr. S. Saravanan and K. Janani "A study on measuring the financial soundness of Bharath petroleum corporation limited (BPCL)", International journal of multidisciplinary research and development, volume 2, issue no 2, February 2015, pg.no 44-47, ISSN 2349-4182
2. M.Kannadhasan "A study on measuring financial health of a public limited company using Z score model-A case study", The management accounting, June 2007, pg.no 469-473.
3. Meherji duvvuri "Financial health of NFCL-A Z score approach", international journal of research in management and technology, volume 2, issue no 1, January 2012, pg.no 101-105, ISSN 2249-9563
4. Milinda Lahiri "A study on measuring the financial health of Indian oil corporation limited using Z score modal", volume 1, issue no 2, February 2015, pg.no 32-44, ISSN 2395-7964
5. Nilanjana Kumari "A study on evaluation of financial health of MMTC of India a Z score model", European journal of accounting auditing and finance research, volume 1, issue no 3, march 2013, pg.no 36-43.

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