

1-calculate the z-score and comment on the results,2- find a debt rating and comm...

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Finance and Accounting s affiliation Finance and Accounting Question The Z-score is a model used to determine whether a firm is about to go through financial distress. Financial distress of a company can be defined as the state in which the company fails to honour the promises made to their creditors and this can lead to bankruptcy if correct measures are not taken to correct the situation (Jacob, Bas, Joseph, & Arie, 2013). Altman applied statistical method of discriminant analysis to test the probability of corporate failure for publicly held companies.

Altman's Z-score is important as it helps in establishing the firm's viability to enter into strategic alliances and mergers with others. It can also be used to evaluate the managers of a company, if the Z-score is favourable then the managers are doing a good job and the converse is also true. Additionally, the model can be used to check the viability of the firm before seeking employment and also to predict business failure of the company

The Z-score is obtained by considering five variables. The decision criterion is given as follows;

$Z > 2.99$ - this is the safe zone for the company

$Z = 1.8 - 2.99$ -this is referred as the grey zone

$Z < 1.8$ -this level indicates high chances of financial distress for the company.

The variables include;

$X_1 = \text{Working Capital/Total Assets}$

2011 2012

$= (11,060)/1,456,952 = (10,656)/1,513,319$

$= (0.00759) = (0.00704)$

$X_2 = \text{Retained Earnings/Total Assets}$

2011 2012

$$= 30,715/1,456,952 = 31,491/1,513,319$$

$$= 0.021 = 0.021$$

$X_3 = \text{Earnings before interest and tax/Total Assets}$

2011 2012

$$= 51,482/1,456,952 = 52,156/1,513,319$$

$$= 0.0353 = 0.0345$$

$X_4 = \text{Market Value of Equity/Total Liabilities}$

2011 2012

$$= 30,715/1,426,237 = 31,491/1,481,828$$

$$= 0.0211 = 0.0212$$

$X_5 = \text{Net Sales/Total Assets}$

2011 2012

$$= 16,849/1,456,952 = 776/1,513,319$$

$$= 0.0116 = 0.000513$$

$$Z = 1.2 \cdot X_1 + 1.4 \cdot X_2 + 3.3 \cdot X_3 + 0.6 \cdot X_4 + 1.0 \cdot X_5$$

2011

$$Z = 1.2 \cdot (0.00759) + 1.4 \cdot 0.021 + 3.3 \cdot 0.0353 + 0.6 \cdot 0.0211 + 1.0 \cdot 0.0116$$

$$= 0.16104$$

2012

$$Z = 1.2 \cdot (0.00704) + 1.4 \cdot 0.021 + 3.3 \cdot 0.0345 + 0.6 \cdot 0.0212 + 1.0 \cdot 0.000513$$

$$= 0.14804$$

The Z-score obtained for the two years is below 1.8 and therefore the

corporation is in a state of financial distress.

Question 2

Debt rating refers to the continued monitoring of the firm's financial status after they have been issued with a debt (Javier, 2014). The ratings are expressed as letters ranging from 'AAA' which represents the highest investment grade to 'C' which represents the lowest investment grade. This rating has an impact on the returns that must be offered in order to sell the debt instrument. For a firm to be considered suitable for investment, it must achieve a greater credit rating which is a crucial threshold because many funds are prevented by their ratings from any investments in bonds.

The following ratios will help to determine which grade the power corporation falls;

Earnings before interest and tax/equity

$$= 52,156 / 31,491$$

$$= 1.656$$

Cash flows from operations/total debt

$$= 3,880 / 1,481,828$$

$$= 0.0026$$

Debt/equity

$$= 1,481,828 / 31,491$$

$$= 47.06$$

Using the Standard and Poor's debt rating agency, the above ratios indicate that the firm has a credit rating grade of B and below which is the low credit rating also referred to as the non-investment grade and is an indicator that the company is facing significant financial risks. Therefore, the power

corporation should take necessary steps to prevent the company from being declared bankrupt.

References

- Jacob, E., Bas, A., Joseph, P., & Arie, W. (2013). Debt stabilization games in the presence of risk premia, *Journal of Economic Dynamics and Control*, 37 (12) 2525-2546.
- Javier, S. V. (2014). High debt companies leverage determinants in Spain: A quantile regression approach, *Economic Modelling*, 36, 455-465.