

"A man is  
great by  
deeds, not by  
birth"

-Chanakya

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INDIAN INSTITUTE OF MANAGEMENT KOZHIKODE



Case Study

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**Austral Coke & Projects Limited:  
Detecting Earnings Manipulation**

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## **Austral Coke & Projects Limited: Detecting Earnings Manipulation**

**By Rachappa Shette and Sudershan Kuntluru**

### **Austral Coke and Projects Limited (ACP Ltd):**

This company was incorporated as NRE Stocknet Limited in April 1994. Later, it was renamed as Net Interactive Limited in June 1998 and again it is renamed as Austral Cokes and Projects Limited (ACP Ltd) in September 2005. Currently, ACP Ltd is an Indian listed company on NSE and BSE after a successful fund raising of Rs 142.296 crores through IPO during Sept 2008.

Manufacture of LAM coke and refractory trading of textile are the core activities of this company in addition to leasing construction and earthmoving machines to large and medium companies involved in construction of buildings, airports, and residential buildings. Financial Statements of ACP Ltd. Are presented in Exhibit-1. The sales revenue of the company is 441.49 crores in 2008-09 as compared to 229.66 crores in previous financial year. The net-profit is Rs 45.25 in 2008-09 as compared to Rs 36.46 crores in the previous financial year.

During the period of such an impressive financial performance in terms of growth in sales and net income, financial position in terms of net worth, and successful fund raising through IPO, the company's board was contemplating of raising additional equity funds of Rs 960.22 crores through private placement with the financial institutions.

There is also bad news about this company during this impressive period of the financial health of the company. According to a popular daily print newspaper on 25<sup>th</sup> Jan 2010<sup>1</sup>, Government has requested Serious Fraud Investigation Office (SFIO) to probe the alleged financial irregularities in this company. The SFIO need to submit the investigation report within six months. As per the news, there are seven designated officers for this investigation in six-month period.

Mr. Ajay Kumar Dubey, assuming as one of the seven designated officers of SFIO, attended a management development program on financial statements analysis which included learnings on Beneish Earnings Manipulation Score to assess the possibility of financial statement frauds. He would like to apply Messod D. Beneish earnings manipulation score (M-Score) to assess the possibility of earnings manipulation in the audited financial statements reported during the financial year 2008-09 and identify possible accounting scheme(s) used for such earnings manipulation.

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<sup>1</sup> <https://economictimes.indiatimes.com/industry/indl-goods/svs/metals-mining/govt-set-to-probe-irregularities-at-austral-coke/articleshow/5496217.cms?from=mdr> (accessed on 10<sup>th</sup> March 2023).

## Beneish Earnings Manipulation Score (M-Score)<sup>2</sup>:

According to Beneish, M-Score is interpreted as below.

Table 1: Interpretation of M-Score

M-Score	Interpretation
< -2.00	Not-manipulator
-2.00 to -1.78	Possible-Manipulator
> -1.78	Likely-Manipulator

Table 2: Variables Used

	Variable	Description	Rationale
1	DSR	$(R_t / S_t) / (R_{t-1} / S_{t-1})$ Where R is receivables and S is Sales	Measures distortion in sundry receivables due to abnormal credit sales
2	GMI	$GM_{t-1} / GM_t$ Where GM is gross margin	Measures pressure on the company due to deteriorating gross margins
3	AQI	$[1 - (PPE_t + CA_t) / TA_t] / [1 - (PPE_{t-1} + CA_{t-1}) / TA_{t-1}]$	Captures distortion in total assets (TA) due to excessive investments in assets other than Property, Plant & Equipment (PPE) and Current Assets (CA).
4	SGI	$Sales_t / Sales_{t-1}$	Captures pressure on the company due to high sales growth
5	DEPI	$DR_{t-1} / DR_t$ Where DR is depreciation rate	Captures distortion in financial statements due to lower rate of depreciation (DR)
6	SGAI	$(SGA_t / Sales_t) / (SGA_{t-1} / Sales_{t-1})$	Captures distortion in financial statements due to higher selling, general and administrative (SGA) expenses
7	Accruals	$(Net\ Income - Net\ CFO)_t / TA_t$ Where CFO is cash flows from operations and TA is total assets	Captures distortion in financial statements due to non-cash profit
8	LEVI	$Leverage_t / Leverage_{t-1}$ , where Leverage non-current liabilities divided by total assets	Captures pressure on the company due to higher debts

According to Beneish Model, the following probit model is used to estimate the probability of earnings manipulation score.

$$M\text{-Score} = -4.84 + 0.920(DSR) + 0.528(GMI) + 0.404(AQI) + 0.892(SGI) + 0.115(DEPI) - 0.172(SGAI) + 4.679(\text{Accruals}) - 0.327(LEVI).$$

Alternatively, the online link<sup>3</sup> could be used to compute M-Score of earnings manipulation of Beneish.

Table 3: Mean and Medians of variables of manipulators and non-manipulators.

<sup>2</sup> Beneish, M. D., Lee, C. M., & Nichols, D. C. (2013). Earnings manipulation and expected returns. *Financial Analysts Journal*, 69(2), 57-82.

<sup>3</sup> <https://apps.kelley.iu.edu/Beneish/MScore/MScoreInput>

Variables	Manipulators		Controls (Non-Manipulators)	
	Mean	Median	Mean	Median
Days in receivables	1.412	1.219	1.030	0.995
Gross-Margin	1.159	1.028	1.017	1.001
Asset-quality	1.228	1.000	1.031	1.000
Sales-growth	1.581	1.341	1.133	1.095
Depre.-index	1.072	0.977	1.007	0.972
SGA index	1.107	1.028	1.085	0.990
Leverage index	1.124	1.035	1.033	1.000
Accruals index	0.049	0.026	0.015	0.012

Source: Beneish et al (2013)<sup>4</sup>

### Questions:

1. Mr. Ajay is required to compute Beneish Earnings Manipulation Score (M-Score) of Austral Coke and Projects Limited (ACP Ltd) using eight variable model from the financial statements given in Exhibit 1.
2. What kind of accounting scheme (s) could have been used in ACP Ltd to manipulate earnings?
3. Do ratios support the possible accounting manipulation scheme identified in above question 2? If so, what are such ratios?
4. Identify any other qualitative or quantitative red flag of earnings manipulation in financial statements of ACP Ltd.

### References:

Beneish, M. D., Lee, C. M., & Nichols, D. C. (2013). Earnings manipulation and expected returns. *Financial Analysts Journal*, 69(2), 57-82.

Austral Coke and Projects Ltd. (2009). *Annual Report of Austral Coke and Projects Limited*.

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<sup>4</sup> Beneish, M. D., Lee, C. M., & Nichols, D. C. (2013). Earnings manipulation and expected returns. *Financial Analysts Journal*, 69(2), 57-82.

Exhibit-1: Financial Statements of Austral Coke and Projects Limited (ACP Ltd)

<b>BALANCE SHEET AS AT 31.03.2009</b>			
<b>Particulars</b>	<b>Schedule</b>		
		31.03.2009 Rs	31.03.2008 Rs
<b>SOURCES OF FUNDS (LIABILITIES AND EQUITY)</b>			
<b>SHAREHOLDERS FUND: (EQUITY)</b>			
Share Capital	1	29,02,96,040	19,02,96,040
Reserves and Surplus (other equity)	2	3,93,35,47,731	1,65,49,71,891
<b>Deferred Tax Liability</b>		34,73,63,860	18,52,75,661
<b>LOAN FUNDS (NON- CURRENT LIABILITY)</b>			
Secured Loans	3	1,02,41,40,319	90,74,47,118
Unsecured Loans		2,60,00,000	71,79,45,300
<b>CURRENT LIABILITIES AND PROVISIONS</b>			
	10	3,20,30,78,669	83,07,24,851
<b>TOTAL</b>		<b>8,82,44,26,619</b>	<b>4,48,66,60,861</b>
<b>APPLICATION OF FUNDS (ASSETS)</b>			
<b>FIXED ASSETS (NON- CURRENT ASSETS)</b>			
	4	2,74,60,10,148	2,39,39,50,856
<b>INVESTMENTS</b>			
	5	76,15,58,680	1,39,45,229
<b>CURRENT ASSETS, LOANS and ADVANCES</b>			
Sundry Debtors	6	1,51,56,92,791	89,04,24,468
Inventories	7	79,27,96,701	59,06,43,613
Cash/Bank Balances	8	46,00,91,442	34,00,34,599
Loans and Advances	9	2,45,21,97,442	24,44,89,339
		5,22,07,78,376	2,06,55,92,019
<b>Miscellaneous Expenditure</b>	11	9,60,79,414	1,31,72,757
<b>TOTAL</b>		<b>8,82,44,26,618</b>	<b>4,48,66,60,861</b>

Source: Annual Report of the company

**PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED  
31.03.2009**

<b>Particulars</b>	<b>Schedule</b>	<b>31.03.2009(Rs)</b>	<b>31.03.2008(Rs)</b>
<b>INCOME</b>			
Sales		4,41,49,27,935	2,29,66,59,765
Other income	12	3,94,44,082	6,42,29,733
Increase/(Decrease) in Stocks (Inventory)		20,27,76,698	42,00,31,220
<b>TOTAL</b>		<b>4,65,71,48,715</b>	<b>2,78,09,20,718</b>
<b>EXPENDITURE</b>			
Purchase		3,10,49,89,976	1,28,78,94,307
Manufacturing Expenses	13	15,86,16,267	19,38,61,610
Vehicle Hire Expense		—	41,25,69,242
Selling, General and Administrative expenses	14	5,90,28,135	5,16,42,259
Financial Expenses	15	30,06,53,249	8,27,97,811
Preliminary Exp. w/off		8,75,033	8,75,033
<b>TOTAL</b>		<b>3,62,41,62,660</b>	<b>2,02,96,40,262</b>
Profit before Depreciation		1,03,29,86,055	75,12,80,456
Depreciation	4	33,94,70,321	18,29,29,274
Profit before Taxation		69,35,15,734	56,83,51,182
Provision for taxation		7,85,75,333	6,43,94,189
Deferred Tax Liabilities		16,20,88,200	13,90,64,991
Fringe Benefit Tax		3,13,178	2,35,349
Profit after Taxation and Depreciation		45,25,39,023	36,46,56,653

Source: Annual Report of the company



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