

Impact of Firm's Size on Profitability: Evidence from Beverage and Tobacco Industry in India

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The size-wise categorization gives closer insight on to the impact of size on influencing the profitability of firms. The study is attempted with the objective of analyzing the predictor variables influencing the profitability and to estimate the variation if any in terms of size of Beverage and Tobacco firms in India based on sales. Regression analysis has been used for analysis. The study proves that more specifically, capital intensity and aggressive investment policy are the major predictor variables of profitability in case of *small size firms*. However, growth has significant negative coefficient on profitability showing their inefficiency to use the assets for productive purpose. The *mediums size firms*, on the other hand show that capital intensity has a significant positive coefficient on profitability. Further, the size is the main predictor variable influencing the profitability of *large size firms* proving that increase in turnover has correspondingly increased their profit margin unlike the case of *medium size firms*.

Key words: Profitability, aggressive investment policy, capital intensity, volatility, growth, firm size

INTRODUCTION

Profitability (*P*) is considered to be substantial to that of value maximizing objective of a firm. All firms have to show their consistent efficiency in profit earning capacity to improve the reputation, which is a crucial factor in contributing to the survival of them. Borrowing capacity of the firm is also determined by *P*. Thus, it is considered as the main factor in determining the capital structure (*CS*) of the firm. *P* consists of two words *profit* and *ability*; hence it is necessary to differentiate between *profit* and *profitability* at this juncture. *Profit*, from accounting point of view, is arrived at by deducting from total revenue of an enterprise all amount expended in earning that income, whereas *Profitability* can be measured as profit shown as a percentage of sales known as profit margin. It can also be expressed as return on investment (*ROI*) or return on asset (*ROA*).

This study, in particular, uses **ROA** and profit margin ratios for measuring ***P*** because sufficient *return on investment in asset* is essential for encouraging a growing industry like beverage and tobacco industry as it is in the growing phase in India.

BEVERAGE AND TOBACCO INDUSTRY IN INDIA

India has a large and diverse agriculture and is one of the world's leading producers of food products. It is also a major consumer, with an expanding population to feed. Agriculture and allied sectors accounted for 15.7% of the gross domestic product (GDP) in 2009 – 10. Growing population, favorable demographics and rising income levels are expected to be key growth drivers in developing countries like India. Consumer expenditure on food, beverages and tobacco in India has forecasted to grow at a compounded annualized growth rate (**CAGR**) of 12.2% during 2007 to 2011. India is the world's largest market for whisky will also remain as major global spirits market in the coming years. The alcoholic drink value growth for the year 2010 is 16.9% and is forecasted to increase to 81.6% by 2015 while the soft drink volume growth for

2010 is 9.3% and forecasted to grow as 51.7% by 2015 (India Food and Drink Report Q1 2011). Nevertheless, high food prices, resulting from the combined effects of the weak 2009 monsoon and inefficiencies in the government's food distribution system have shook Indian economy to the core. Growth of food industry would persist as a good alternative to this problem. Studies and researches on the determinants of its profitability would facilitate an ensured stable advancement of the industry; hence the study is a step ahead of one such attempt.

SCOPE AND SIGNIFICANCE OF THE STUDY

P is a vital factor in deciding the perpetual existence of a firm. P is considered to be an important factor in determining the capital structure (CS) of the firm. Different views prevail with regard to the relation between P and CS . *Pecking order theory* is developed based on the profit earned by the firm, which states that highly profitable firms prefer internal funds rather than external funds to finance their investment opportunities. When external finance is required, they start with debt, then possibly by securities such as convertible bonds, then perhaps equity as a last resort (Myers, 1984). The corporate managers are more likely to follow this financing hierarchy than to equity ratio (Pinegar *et al.* the pecking order negative relation market value basis and and Japanese controlling the firm **More profitable firms should hold less debt since higher profit generates more internal funds** maintain a target debt-*al.*, 1989), which supports theory. There exists a between CS and P under book value for both US manufacturing firms after characteristics such as growth, profitability, risk, size and industry classification (Kester, 1986). Titman *et al.* (1988), Barton *et al.* (1988), Pinegar *et al.* (1989), Harris *et al.* (1991), Harries (1994), Jonson (1998), Simerly *et al.* (2000), and Booth *et al.* (2001) have found a negative relation between P and CS in support of pecking order theory. Hence, it is recommendable that more profitable firms should hold less debt since higher profit generates more internal funds (Bevan *et al.*, 2002). However, P did not affect the CS of small firms (Hutchinson *et al.*, 1998). On the other hand, Rajan *et al.* (1995) have emphasized on size of the firm stating that large firms tend to issue less equity and that the negative influence of P on leverage (LEV) should become stronger as firm size increases.

Besides, Dogra *et al.* (2009) have studied the relation between *CS* and *P*, and ended up with a finding that optimum *CS* enhances the *P* and the value of the firm.

There also exist varied views on the variables affecting the *P* of the firms. There are different perceptions about the impact of capital intensity (*CAPINS*) and size (*SIZ*) on *P*. *CAPINS* can affect *P* because cut-throat competition might eliminate all future profits, depressing each firm's

Consistent profit earning capacity is also looked into as a determinant of *P*, therefore competitive market creates much of such risk.

security level (Ghemawat *et al.*, 1986). Both higher predicted profitability and higher capital requirements raise *CAPINS* (Harris, 1988). *CAPINS* imposes a greater degree of risk because assets are frozen in long lived forms that may not be easy to sell. Further, liquidity (*LIQ*) affects both the firm's *P* and operating risk (Papaicannou *et al.*, 1994). Consistent profit earning capacity is also looked into as a

determinant of *P*, therefore competitive market creates much of such risk. In more competitive markets where price cut out were sort for, *P* gets reduced due to higher cost of debt, thereby the chances of financial distress and bankruptcy also increase (Pandey, 2002).

The forgoing reviews give precise view about the impact that the *P* has on deciding the *CS* of the firms. It also portrays a vivid view about the various financial variables that influence the *P* of the firms. To make an in depth study about the variables determining *P* of beverage and tobacco industry, the following objectives are set.

OBJECTIVES HYPOTHESES OF THE STUDY

1. To analyze the variables those influence the profitability of firms in beverage and tobacco industry in India.
2. To analyze the impact of size of firms in terms of turnover on profitability of beverage and tobacco industry in India.

The following hypotheses are developed to achieve the stated objectives:

H_0^1 = Aggressive investment policy does not have a significant influence on profitability of the firms.

H_0^2 = Capital intensity does not have a significant influence on profitability of the firms.

H_0^3 = Volatility does not have a significant influence on profitability of the firms.

H_0^4 = Growth of firms does not have a significant influence on profitability of the firms.

H_0^5 = Size of firms does not have a significant influence on the profitability of the firms.

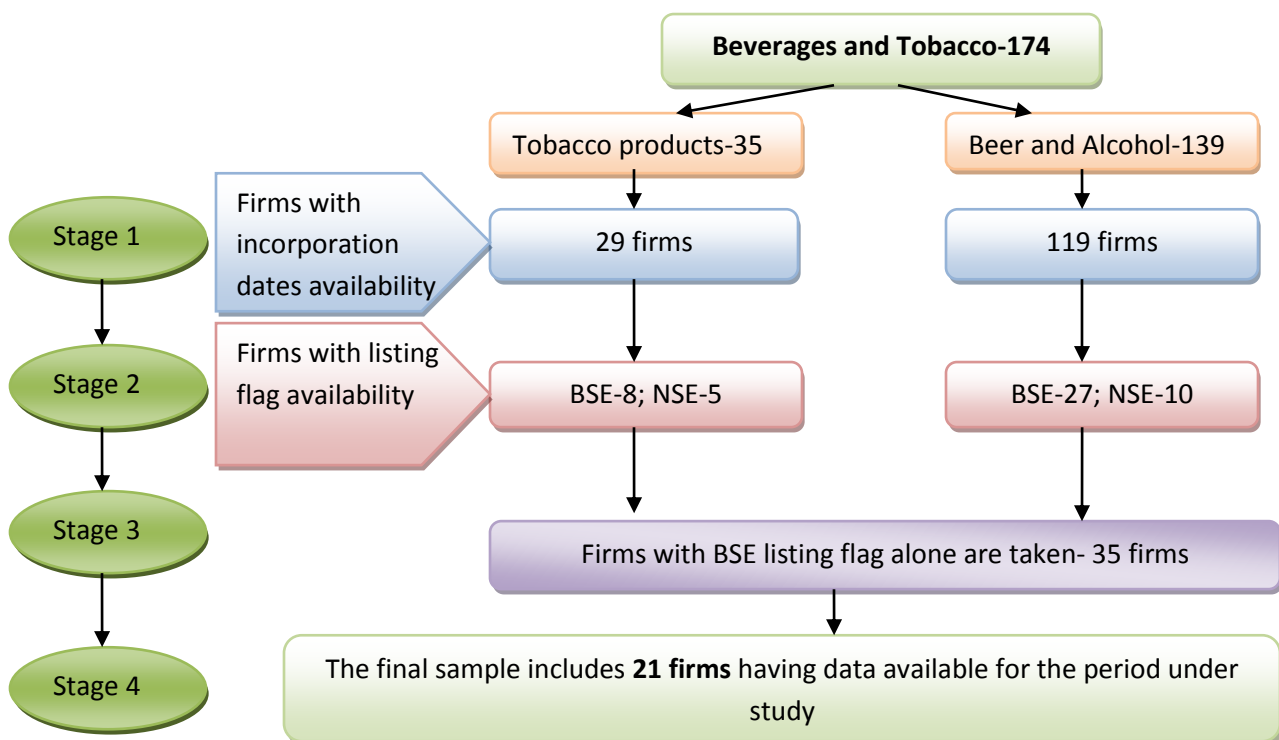
RESEARCH METHODOLOGY

Sources of Data and Period of the Study

The study is based on secondary data, which are collected from Centre for Monitoring Indian Economy (CMIE) Prowess package for a period of 10 years on year to year basis ranging from 2000-2001 to 2009-2010 updated as on 7th April 2011.

Sampling Design

Chart 1: Multistage Sampling Technique



Multistage sampling technique has been used and the different stages followed are shown in chart 1.

Research Methods for Analysis

Descriptive statistics such as mean, standard deviation are used to neutralize the fluctuation in the value of Predictor as well as predictor variables. Correlation co-efficient is extensively used to study one-to-one relationship between variables. Multiple regressions are also used to estimate the variables that influence the P of the firms. Appropriate ratios as stated below are also used to calculate individual relative properties of the selected variables.

Description of Ratios (Measures) Used

Table 1: Description of Measures (Ratios) Used and Inferences

Measures	Description	Inference
P_TASSET	PBITD / Total Assets	High value denotes large return on assets and vice versa.
P_SAL	PBITD / Sales	A high value implies a great profit margin and vice versa.
AIP	Current Assets / Total Assets	A low value indicates more aggressive use of assets for increasing earnings and vice versa.
$CAPINS$	Total Assets / Sales	A low value indicates large turnover for the investment in assets and vice versa.
SIZ	Logarithm of Sales over Years	Turnover adjusted for fluctuation over years.
$GROW$	Compounded annualized growth rate (CAGR) of total assets	The growth of total assets over the years.
VOL	Standard deviation of earnings before interest, taxes and depreciation (EBITD) / Total Assets	A high value denotes greater volatility in earnings from the assets invested and vice versa.

Regression Equation

The term P has been defined by Lowe *et al.* (1994) as the average rate of return on assets (ROA).

$$P_TASSET = \text{PBITD} / \text{Total Assets}$$

Profit margin is also used as responding variable to measure profitability.

$P_SAL = \text{PBITD} / \text{Sales}$, hence, the equation is:

$$P = \alpha + \beta_1 LIQ + \beta_2 CAPINS + \beta_3 SIZ + \beta_4 GOW + \beta_5 VOL + \epsilon$$

Controlling Variables

The sample firms of the study are further grouped into three categories based on the size measured based on the quantum of sales. The firms with average sales turnover of below ₹50 crore are grouped as ‘*small size firms*’, the firms with average sales turnover of over ₹50 crore but below ₹300 crore are considered as ‘*medium size firms*’, and the firms with average sales turnover of over ₹300 crore are considered as ‘*large size firms*’.

INDUSTRY ANALYSIS, FINDINGS AND DISCUSSION

Table 2 shows the descriptive statistics reporting that *CAPINS* has the highest deviation from its mean value indicating that the competence to make a turnover on the investment vary among the firms of beverage and alcohol industry. They show a varied level of turnover on the investment in asset. The next highest deviation is that of *SIZ*, demonstrating that the firms vary in the turnover size.

Table 2: Overall Descriptive Statistics of Predictor Variables of Beverage and Tobacco Industry in India

Variables	N	Minimum	Maximum	Mean	Std. Deviation
AIP	21	0.139549	2.951939	0.45583428	0.589179804
CAPINS	21	0.266613	5.213326	1.55782926	1.347345663
SIZ	21	0.776846	4.208481	2.16558802	0.806689172
GROW	21	-0.125479	0.417556	0.08449695	0.128927344
VOL	21	0.016001	0.318118	0.06617180	0.065612669
P_SAL	21	-0.71560	0.22941	0.03987860	0.18436167
P_TASSET	21	-0.058339	0.282071	0.08741723	.070317544

Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

The overall correlation analysis shows that (*see table 3*) *CAPINS* has highly significant negative correlation with *P_SAL* (-0.60) and with *P_TASSET* (-0.66) which, in turn, indicates that the firms profit margin increases with the increase in turnover on the amount invested in their assets and their ability to aggressively use the assets for productive purpose. *SIZ* has highly significant positive correlation (0.69) with *P_TASSET*, which implies that increase in the firms' turnover increases their *ROA* invested. Aggressive investment policy (*AIP*), which show the aggressive investment of assets for productive purpose shows that there exists a significant negative correlation (-0.52) with *P_TASSET* which implies that the firms should invest lesser on their current assets and use their funds for productive purpose to yield higher profit. Therefore, H_0^1 and H_0^5 are rejected in respect of *P_TASSET* while H_0^2 is rejected in respect of *P_SAL*.

Table 3: Overall Correlation Analysis of Predictor Variables of Beverage and Tobacco Industry in India

Variables	P_SAL	P_TASSET	AIP	CAPINS	SIZ	GROW	VOL
	1						
P_TASSET	0.306	1					
	0.177						
AIP	-0.070	-0.521*	1				
	0.764	0.016					
CAPINS	-0.605**	-0.668**	0.467*	1			
	0.004	0.001	0.033				
SIZ	0.260	0.696**	-0.445*	-0.479*	1		
	0.255	0.000	0.043	0.028			
GROW	-0.177	0.411	-0.459*	-0.125	0.488*	1	
	0.443	0.064	0.036	0.590	0.025		
VOL	-0.304	-0.224	-0.058	0.213	-0.411	-0.168	1
	0.181	0.329	0.803	0.355	0.064	0.465	

Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

**. Correlation is significant at 0.01 level (2-tailed); Correlation is significant at 0.05 level (2-tailed).

The overall regression result shows that (*see table 4*) *CAPINS* has significant negative coefficient (-0.08) on *P_SAL* in *model 1* and highly significant coefficient (-0.08) in *model 2* after removing *AIP* and *SIZ*. The model fit is around 40% (Adj-R² is 0.38), indicating that the predictor variables predict 40% of the responding variable *P_SAL*. The F statistics is significant indicating that the variance in the predictor variables explains a significant portion of variability in *P_SAL*. *CAPINS* has significant negative coefficient on *P_TASSET* insisting the firms to use productively the assets for increasing the turnover on assets. *SIZ* is another predictor variable, which has significant positive coefficient on *P_TASSET*, indicating that the level of turnover of the firms influences their *ROA*. The model fit is around 60% (Adj-R² is 0.58) showing that the predictor variables explain over 60% of the responding variable, *P_TASSET*.

Table 4: Overall Results of Predictor Variables of Regression on Profitability of Beverage and Tobacco Industry in India during 2000-01 - 2009-10

Variables	Un-standardized Coefficients Beta Value			
	Responding variable <i>P_SAL</i>		Responding variable <i>P_TASSET</i>	
	Model 1	Model 2	Model 1	Model 2
(Constant)	0.186 (0.303)	0.243 (0.001)	0.037 (0.501)	0.042 (0.331)
AIP	0.038 (0.637)	-	-0.008 (0.736)	-
CAPINS	-0.085* (0.018)	-0.081** (0.004)	-0.023* (0.040)	-0.024* (0.013)
SIZ	0.016 (0.791)	-	0.036 (0.070)	0.035* (0.049)
GROW	-0.378 (0.273)	-0.413 (0.124)	0.072 (0.501)	0.087 (0.351)
VOL	-0.506 (0.415)	-0.636 (0.228)	0.061 (0.750)	-
R ²	0.488	0.479	0.656	0.648
Adj-R ²	0.317	0.387	0.541	0.586
F statistics	2.856	5.202**	5.724**	10.454**

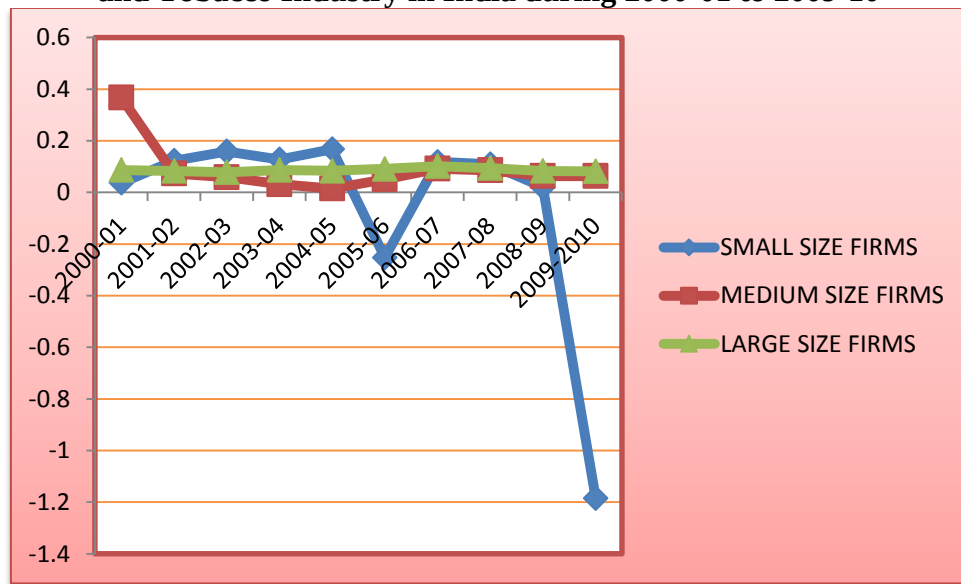
Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

Note: Figures in parentheses are 'p' values; **.significant at 0.01 level; *.significant at 0.05 level

FIRM SIZE-WISE ANALYSIS OF THE INDUSTRY

To analyze the impact of size on the relation between responding and the predictor variables, the firms are grouped into three categories viz., *small size*, *medium size* and *large size firms* based on the average turnover of the firms over the study period as stated in the methodology part. The trend line showing (see chart B) P_SAL of *small size firms* has a fluctuating trend with deep fall and rise indicating that these firms do not have stable earnings. The P_SAL of *medium size firms*, on the other hand show that though there is fall down in the 2001-02, they are able to maintain their profit margin in the following years without much plunges. However, the *large size firms* are capable of maintaining a steady profit margin depicting their firmness in the market.

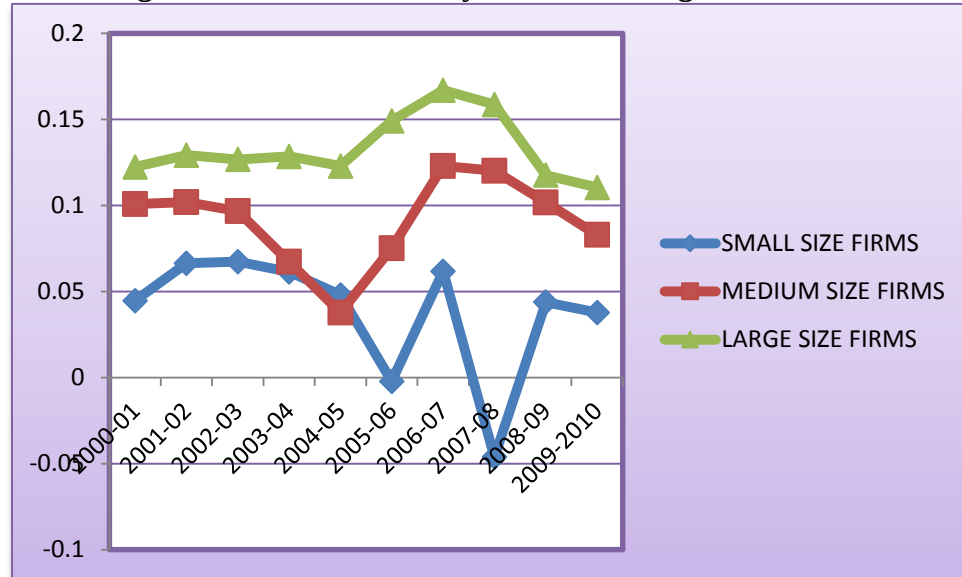
Chart 2: Trend Line Showing P_SAL of Small, Medium and Large Size Firms of Beverage and Tobacco Industry in India during 2000-01 to 2009-10



Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

The chart (see chart 3) displaying the firm's ability to earn return on the amount invested shows that the *small size firms* have the highest fluctuation while the *medium* and the *large size firms* are in better position with lesser fluctuation. However, they should try to minimize these fluctuations to flourish in the future.

Chart 3: Trend Line Showing P_TASSET of Small, Medium and Large Size Firms of Beverage and Tobacco Industry in India during 2000-01 - 2009-10



Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

ANALYSIS OF SMALL SIZE FIRMS

The descriptive statistics show that (see table 5) there is no much of deviation in the profit earning capacity of the firms grouped as *small size*. *CAPINS* and *AIP* show higher deviation indicating that the efficiency of the firms to use their assets for increasing their return varies among these firms.

Table 5: Descriptive Statistics of Predictor Variables of Small Size Firms of Beverage and Tobacco Industry in India during 2000-01 - 2009-10

Variables	N	Minimum	Maximum	Mean	Std. Deviation
AIP	7	0.139549	2.951939	0.74846489	0.983082091
CAPINS	7	1.361596	5.213326	2.75466465	1.475002291
SIZ	7	0.776846	1.838899	1.37993120	0.377625959
GROW	7	-0.125479	0.266643	0.02291988	0.127277648
VOL	7	0.023198	0.318118	0.10407226	0.100591503
P_SAL	7	-0.71560	0.20223	-0.0575827	0.30187283
P_TASSET	7	-0.058339	0.077085	0.03825545	0.044595371

Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

Table 6: Correlation Analysis of Predictor Variables of Small Size Firms of Beverage and Tobacco Industry in India during 2000-01 - 2009-10

Variables	P_SAL	P_TASSET	AIP	CAPINS	SIZ	GROW	VOL
P_SAL	1						
P_TASSET	0.173	1					
	0.711						
AIP	0.082	-0.919**	1				
	0.861	0.003					
CAPINS	-0.756*	-0.506	0.369	1			
	0.049	0.247	0.416				
SIZ	-0.374	0.665	-0.767*	0.064	1		
	0.409	0.103	0.044	0.892			
GROW	-0.700	0.400	-0.628	0.463	0.840*	1	
	0.080	0.374	0.131	0.296	0.018		
VOL	-0.183	0.227	-0.306	-0.262	-0.181	-0.035	1
	0.695	0.624	0.504	0.571	0.697	0.940	

The correlation analysis of the *small size firms* is shown in table 6 which reports that *CAPINS* has significant negative correlation (-0.75) with *P_SAL*, showing that the profit margin increases with the aggressive use of assets to increase turnover. *AIP* has highly significant negative correlation (-0.91) with *P_TASSET*. Therefore, investing more in fixed assets and holding proportionately low level of current assets help them to increase the return on assets. Hence, H_0^2 is rejected in respect of *P_SAL* and H_0^1 is rejected in respect of *P_TASSET*.

Table 7: Regression Results of Predictor Variables on Profitability of Small Size Firms of Beverage and Tobacco Industry in India during 2000-01 - 2009-10

Variables	Un-standardized Coefficients Beta Value			
	Responding variable P_SAL		Responding variable P_TASSET	
	Model 1	Model 2	Model 1	Model 2
(Constant)	1.249 (.485)	.360 (.063)	-.052 (.536)	-.088 (.210)
AIP	-.342 (.548)	-.263* (.047)	-.105 (.116)	-.096* (.032)
CAPINS	-.022 (.940)	-	.038 (.187)	.036 (.089)
SIZ	-.527 (.570)	-	.064 (.299)	.083 (.087)
GROW	-1.946 (.695)	-2.974* (.015)	-.734 (.156)	-.728 (.060)
VOL	-2.100 (.320)	-1.466 (.097)	-.059 (.489)	-
R ²	0.939	0.879	0.993	0.986
Adj-R ²	0.631	0.794	0.959	0.958
F statistics	3.045	8.696	29.380	35.156*

Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

Note: Figures in parentheses are 'p' values; **.significant at 0.01 level; *.significant at 0.05 level

ANALYSIS OF MEDIUM SIZE FIRMS

The descriptive statistics is shown in table 8 that reports (see table 8) CAPINS has relatively higher deviation proving that there exists high level of deviation in the efficiency of *medium size firms* to make productive use of assets.

Table 8: Descriptive Statistics of Predictor Variables of Medium Size Firms of Beverage and Tobacco Industry in India during 2000-01 - 2009-10

Variables	N	Minimum	Maximum	Mean	Std. Deviation
AIP	7	0.160205	0.516445	0.30320536	0.124394192
CAPINS	7	0.398004	3.453637	1.18280442	1.073360303
SIZ	7	1.726059	2.408018	2.11230050	0.242090088
GROW	7	0.020417	0.417556	0.11890515	0.138142106
VOL	7	0.027935	0.114149	0.05492837	0.028658145
P_SAL	7	0.04426	0.14718	0.0901615	0.03518914
P_TASSET	7	-0.020842	0.136053	0.09072414	0.053353072

Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

The correlation analysis of *medium size firms* is shown in table 9 that reports **CAPINS** has highly significant positive correlation (0.89) with **P_SAL** while it has highly significant negative correlation (-0.96) with **P_TASSET** implying that the increase in turnover is not accompanied by an increase in the profit margin. On the other hand, increase in the turnover has increased the return on investment in the assets.

Table 9: Correlation Analysis of Predictor Variables of Medium Size Firms of Beverage and Tobacco Industry in India during 2000-01 - 2009-10

Variables	P_SAL	P_TASSET	AIP	CAPINS	SIZ	GROW	VOL
P_SAL	1						
P_TASSET	-0.768*	1					
AIP	0.471	-0.577	1				
CAPINS	0.893**	-0.966**	0.632	1			
SIZ	0.214	-0.312	0.465	0.304	1		
GROW	0.061	0.368	0.293	-0.162	0.063	1	

	0.897	0.417	0.523	0.729	0.894		
VOL	0.470	-0.770*	0.858*	0.752	0.404	0.072	1
	0.287	0.043	0.014	0.051	0.369	0.878	

Model 2 of the regression result of *medium size firms* shows that (see table 10) *CAPINS* has highly significant positive coefficient (.04) on *P_SAL* indicating that they show greater turnover at the cost of decreasing their profit margin. *VOL* shows highly significant negative coefficient indicating that volatility in earnings decreases their profit margin. *GROW*, on the contrary shows a significant positive coefficient (.08) unlike in the case of *small size firms*. Investment in assets can earn a good profit for them.

Table 10: Regression Results of Predictor Variables on Profitability of Medium Size Firms of Beverage and Tobacco Industry in India during 2000-01 - 2009-10

Variables	Un-standardized Coefficients Beta Value			
	Responding variable P_SAL		Responding variable P_TASSET	
	Model 1	Model 2	Model 1	Model 2
(Constant)	0.063 (0.312)	.067 (.001)	0.152 (0.069)	0.143 (0.001)
AIP	0.010 (0.911)	-	0.034 (0.498)	0.029 (0.388)
CAPINS	0.046 (0.078)	.046** (.001)	-0.038* (0.046)	-0.038** (0.003)
SIZ	0.002 (0.942)	-	-0.005 (0.673)	-
GROW	0.082 (0.240)	.085* (.015)	0.093 (0.108)	0.094* (0.018)
VOL	-0.786 (0.233)	-.749** (.009)	-0.503 (0.182)	-0.502 (0.053)
R ²	0.989	0.988	0.999	0.998
Adj-R ²	0.933	0.977	0.993	0.995
F statistics	17.634	84.929**	169.249	321.095**

Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

Note: Figures in parentheses are 'p' values; **.significant at 0.01 level; *.significant at 0.05 level

The model fit is around 98% (Adj-R² is 0.97) and the predictor variables predict the changes in *P_SAL* perfectly. *CAPINS* has highly significant negative coefficient (-.038) on *P_TASSET*

indicating that the increase in turnover increases the return on assets in case of *medium size firms*. Further, *GROW* has significant positive coefficient (.094) on *P_TASSET* encourages the firms to invest more in assets which would enable increase the return on assets. Hence, H_0^1 , H_0^2 , and H_0^3 are rejected for *P_SAL*; H_0^2 , and H_0^4 are rejected for *P_TASSET*.

ANALYSIS OF LARGE SIZE FIRMS

Table 11 shows descriptive statistics of large size firms which reports that there exists comparatively a high mean value and the deviation is also high, which implies that there is high volatility in the turnover of large size firms.

Table 11: Descriptive Statistics of Predictor Variables of Large Size Firms of Beverage and Tobacco Industry in India during 2000-01 - 2009-10

Variables	N	Minimum	Maximum	Mean	Std. Deviation
AIP	7	0.145932	0.600172	0.31583259	0.158855163
CAPINS	7	0.266613	1.113307	0.73601871	0.316592261
SIZ	7	2.499830	4.208481	3.00453235	0.650669907
GROW	7	-0.027251	0.291804	0.11166583	0.116011135
VOL	7	0.016001	0.096099	0.03951477	0.027527598
P_SAL	7	0.03441	0.22941	0.0870569	0.06560173
P_TASSET	7	0.054186	0.282071	0.13327208	0.079755844

Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

The correlation analysis of *large size firms* shows that (see table 12) *SIZ* has high significant positive correlation (0.87) with *P_SAL*. The profit margin of the *large size firms* increases with the increase in the turnover; hence H_0^5 is rejected for *P_SAL*. Therefore, these firms must take efforts to increase the turnover to a greater extent.

Table 12: Correlation Analysis of Predictor Variables of Large Size Firms of Beverage and Tobacco Industry in India during 2000-01 - 2009-10

Variables	P_SAL	P_TASSET	AIP	CAPINS	SIZ	GROW	VOL
P_SAL	1	0.775*	-0.158	0.264	0.875**	0.271	-0.412
		0.041	0.735	0.568	0.010	0.556	0.358
P_TASSET	0.775*	1	-0.229	-0.332	0.667	0.253	0.161
	0.041		0.622	0.467	0.101	0.585	0.731
AIP	-0.158	-0.229	1	0.113	-0.366	-0.607	0.109
	0.735	0.622		0.810	0.420	0.148	0.817
CAPINS	0.264	-0.332	0.113	1	0.137	-0.217	-0.578
	0.568	0.467	0.810		0.769	0.640	0.174
SIZ	0.875**	0.667	-0.366	0.137	1	0.609	-0.465
	0.010	0.101	0.420	0.769		0.147	0.293
GROW	0.271	0.253	-0.607	-0.217	0.609	1	-0.177
	0.556	0.585	0.148	0.640	0.147		0.704
VOL	-0.412	0.161	0.109	-0.578	-0.465	-0.177	1
	0.358	0.731	0.817	0.174	0.293	0.704	

Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Unlike in the case of *small size* and *medium size firms*, where aggressive investment of assets are stressed to increase the profit, *AIP* and *CAPINS* have least significant impact (see *table 13*) and hence are removed in *model 2* and *3*. *SIZ* has highly significant positive coefficient on *P_SAL* indicating that the profit of *large size firms* increases with increase in turnover. The model fit is over 80% (Adj-R² 0.81) proving that the predictor variables considered are the major determinants of *P_SAL*. F statistics of *model 3* is also significant indicating that the variances of responding variables are accompanied by the variance in the predictor variables.

Table 13: Regression Results of Predictor Variables on Profitability of Large Size Firms of Beverage and Tobacco Industry in India during 2000-01 - 2009-10

Variables	Un-standardized Coefficients Beta Value				
	Responding variable P_SAL			Responding variable P_TASSET	
	Model 1	Model 2		Model 1	Model 2
(Constant)	-0.258 (0.418)	-0.242 (0.078)	-0.228 (0.020)	-0.232 (0.503)	-0.261 (0.247)
AIP	0.002 (0.992)	-	-	-0.070 (0.798)	
CAPINS	0.016 (0.897)	-	-	-0.090 (0.574)	-0.089 (0.404)
SIZ	0.116 (0.258)	0.117* (0.028)	0.114** (0.007)	0.149 (0.239)	0.149 (0.076)
GROW	-0.222 (0.605)	-0.240 (0.199)	-0.235 (0.136)	-0.394 (0.476)	-0.334 (0.292)
VOL	0.232 (0.874)	0.122 (0.840)	-	1.257 (0.526)	1.264 (0.340)
R ²	0.880	0.876	0.874	0.887	0.875
Adj-R ²	0.270	0.753	0.812	0.321	0.624
F statistics	1.463	7.097	13.935*	1.569	3.492

Source: Computed results based on compiled data collected from CMIE prowess Pvt. Ltd.

Note: Figures in parentheses are 'p' values; **.significant at 0.01 level; *.significant at 0.05 level

CONCLUSION

Intensive employment of assets for increasing the turnover and investing less in current asset will help the industry overall to increase *P_SAL* and *P_TASSET*. The size-wise categorization has given closer insight to the impact of size on influencing the *P*. *CAPINS* and *AIP* are the major influencing variables of *P* in case of *small size firms* insisting that these firms should concentrate on aggressively using the capital. However, *GROW* has significant negative coefficient on *P_SAL* portraying their inefficiency to use the assets for productive purpose. The *mediums size firms*, on the other hand show that *CAPINS* has a significant positive coefficient on *P_SAL* revealing that they have increased the sales by decreasing the profit margin. Further, *SIZ* is the main variable influencing the *P_SAL* of *large size firms* proving that increase in turnover has correspondingly increased their profit margin unlike the case of *medium size firms*. Therefore,

these findings warrant appropriate suggestions for enhancing the profitability of Beverage and Tobacco industry in Indian.

Suggestions for Enhancing Profitability of Indian Beverage and Tobacco Industry

- Generally, aggressive use of assets for earning profit with low liquidity would help the industry to increase the *ROA* and will enable increase in their profit margin. (*CAPINS* and *AIP* show significant negative correlation with *P_SAL* and *P_TASSET*).
- *Small size firms* should efficiently use the amount invested in the assets and must not strive to invest further in the assets which will decrease the profit margin (*GROW* has significant negative coefficient on *P_SAL*).
- *CAPINS* has a significant positive coefficient on *P_SAL* for *medium size firms*. Therefore, these firms should see that they earn a reasonable margin on turnover.
- *Large size firms* have to increase the turnover to increase the profit. Intensive use of assets will play a little role in determining *P*.

LIMITATIONS OF THE STUDY AND SCOPE FOR FURTHER STUDIES

The analysis of the study is based on financing data collected from secondary source. Hence, the quality of the study depends purely upon the accuracy, reliability and quality of secondary data. The firms chosen are restricted to 21 due to limitations such as lack of incorporation years, listing flag, non-availability of data pertaining to those firms in the data source. Research studies may be extended to a further period of analysis and also to the whole of the food industry as the present study has considered the Beverage & Tobacco producing firms only. Across industry analysis could also be carried out to study the impact of industrial differences on the relation between *P* and *LEV*.

REFERENCES

- Dogra, B., and Gupta, S. (2009). An empirical study on capital structure of SMEs in Punjab. *The Icfai Journal of Applied Finance*, 15(3), (March), 60-80.
- Barton, S. L., and Gordon, P. J. (1988). Corporate strategy and capital structure. *Strategic Management Journal*, 9(6), (November - December), 623-32.
- Bevan, A., and Danbolt, J. (2002). Capital structure and its determinants in the United Kingdom: A decomposition analysis. *Applied Financial Economics*, 12(2), 159-70.
- Booth, L., Aivazian, V., Demirgüç-Kunt, A., and Maksimovic, V. (2001). Capital structure in developing countries. *The Journal of Finance*, 56(1), 87-130.
- Frederick H. de B. Harris. (1988). Capital intensity and the firm's cost of capital. *The Review of Economics and Statistics*, 70 (4), (November), 587-94.
- Frederick, H. de B. Harris. (1994). Asset specificity, capital intensity and capital structure: An empirical test. *Managerial and Decision Economics*, 15(6), (November - December), 563-76.
- Ghemawat, P., and Caves, R. E. (1986). Capital commitment and profitability: An empirical investigation. *Oxford Economic Papers*, New Series, 38(1), 94-110.
- Harris, M., and Raviv, A. (1991). The theory of capital structure. *The Journal of Finance*, 46(1), (March), 297-355.
- Hutchinson, P., and Michaelas, N. (1998). The determinants of capital structure of micro, small and medium-sized enterprises. (Working Paper), 1-10.
- Johnson, S. A. (1998). The effect of bank debt on optimal capital structure. *Financial Management*, 27(1) (Spring), 47-56.
- Kester, C. W. (1986). Capital and ownership structure: A comparison of United States and Japanese manufacturing corporations. *Financial Management*, 15(1), 5-16.
- Michael, P. J., and L. Wilbricht. (1989). What managers think of capital structure theory: A survey. *Financial Management*, 18(4), (winter), 82-91.
- Myers, S. C. (1984). The capital structure puzzle. *The Journal of Finance*, 39(3), (December), 575-92.

- Pandey, I. M. (2002). Capital structure and market power interaction: Evidence from Malaysia. *Asia Pacific Journal of Economics and Business*, 8(2), December, 78-91.
- Papaioannou, G. J., Strock, E., and Travlos, N. G. (1992). Ownership structure and corporate liquidity policy. *Managerial and Decision Economics*, 13(4), 316-22.
- Rajan, R. G., and Zingales, L. (1995). What do we know about capital structure? Some evidences from international data. *The Journal of Finance*, 50 (5), (December), 1421-60.
- Simerly, R. L., and Mingfang Li. (2000). Environmental dynamism, capital structure and performance: A theoretical integration and an empirical test. *Strategic Management Journal*, 21(1), (January), 31-49.
- Titman, S., and Wessels, R. (1988). The determinants of capital structure choice. *The Journal of Finance*, 43(1), (March), 1-19.