



Sustainable Growth Rate: Refining a Measure – a Case Study of Tata Motors and Maruti Suzuki

KEYWORDS

Sustainable growth rate, profit margin, retention ratio, asset turnover, shareholder wealth

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ABSTRACT *Many profitable businesses go bankrupt because they grew too fast. Other companies have taken over, because they have a lot of money because they are too slow growing. In the current era of competitive environment, companies are striving hard to earn a reasonably good income to increase shareholder wealth. The increase shareholder wealth depends on a profit target that can be reached within a reasonable time. Now the question remains: how is leased to an investor know how long can profit growth? The easy way to evaluate such a situation is to calculate the growth rate of a sustainable society (SGR). The sustainable growth is the rate of growth that allows the company to grow without too much or too little money problems.*

INTRODUCTION

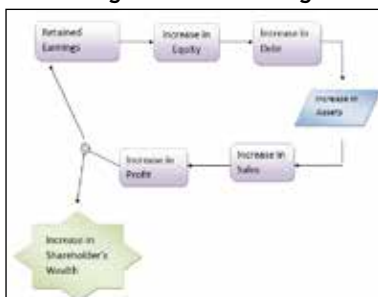
A company's SGR is the maximum growth rate with the use of internally generated funds without changing its operating and financial policies

As Robert C Higgins (2001, 2007) points out, the sustainable growth rate, with no increase in equity, depends on the change in equity divided by beginning-of-period equity. For this he points out that retained earnings lead to an increase in equity, which leads to increase in debt (assuming a constant debt policy) which leads to an increase in assets, which leads to an increase in sales (assuming a constant asset turnover) which leads to an increase in profits (assuming that in the long run all costs are variable and that these costs are a fixed percentage of sales) which leads to an increase in retained earnings (assuming a constant dividend payout rate policy).

The sustainable growth rate, with these assumptions, is defined as: Sustainable growth represents the maximum sales or asset growth that a firm can support using both internally generated funds and debt. SGR is calculated by multiplying the company's return on equity by the proportion of its retained earnings. According to Higgins, SGR depends upon the change in equity in a financial year divided by opening equity without any additional equity introduced during the year.

Such a change is possible only through retained earnings. Thus, the funds generated from retained earnings to increase the net worth of the company and with the increase in net worth, the company may borrow additional funds that allow the company to expand its base assets. The increase in income assets in the volume of activity that ultimately leads to increased profits and thereby increase retained earnings. The figure below illustrates the entire process.

Flow of fund through Retained Earnings



I found that growth through internally generated funds is the

best way of doing business; there is no compulsion on the part of management to increase the funding of new shares to expand its business. But, in practice, companies are reluctant to do so because these new issues involved high flotation costs possible dilution of earning per shares (EPS) and loss of control of management. In addition, a company can increase the debt only if it has the ability to use debt with assets that can be used as collateral and the debt ratio is reasonable in relation to the industry as well, often reducing dividends as a negative impact on the share price of the company. In such a situation, the company adopting internal control measures such as reducing costs or improving manufacturing efficiencies and logistics to improve the profit margin. In addition, companies can outsource more from outside suppliers or lease of production facilities and equipment, which have the effect of improving asset turnover ratio of the asset.

OVERVIEW OF AUTOMOBILE INDUSTRY

The Indian Automobile industry includes two-wheelers, trucks, cars, buses and three-wheelers which play a crucial role in growth of the Indian economy. India has emerged as Asia's fourth largest exporter of automobiles, behind Japan, South Korea and Thailand. The country is expected to top the world in car volumes with approximately 611 million vehicles on the nation's roads by 2050. The Economic progress of this industry is indicated by the amount of goods and services produced which give the capacity for transportation and boost the sale of vehicles. There is a huge increase in automobile production with a catalyst effect by indirectly increasing the demand for a number of raw materials like steel, rubber, plastics, glass, paint, electronics and services.

The Automobile Industry of India has come a long way since in 1898 the first car rolled out on the streets of Mumbai (then Bombay). Indian auto industry, is currently growing at the pace of around 18 % per annum, has become a hot destination for global auto manufacturers like Volvo, General Motors and Ford. The Indian Automobile industry has adopted global standards which are manifested in the increasing exports of this sector. After a temporary decline in the years 1998- 99 and 1999-00, exports increased with robust growth rates of well over 50 per cent in 2002-03 and 2003-04 each to exceed two and-a-half times the export figure for 2001-02.

Tata Motors:

Tata Motors Limited is the leader in commercial vehicles in each segment, and among the top three in passenger vehicles with winning products in the compact, midsize car and utility vehicle segments. It is the world's fourth largest truck and bus manufacturer. The Tata Motors Group's over 55,000 employees are guided by the vision to be "best in the man-

ner in which we operate, best in the products we deliver, and best in our value system and ethics." Established in 1945, Tata Motors' presence e indeed cuts across the length and breadth of India. Over 7.5 million Tata vehicles ply on Indian roads, since the first rolled out in 1954.

Maruti suzuki limited:

Maruti Suzuki India Limited, commonly referred to as Maruti, is a subsidiary company of Japanese automaker Suzuki Motor Corporation. It has a market share of 44.9% of the Indian passenger car market as of March 2011. Maruti Suzuki offers a complete range of cars from entry level Maruti 800 and Alto, to hatchback Ritz, A-Star, Swift, Wagon-R, Estillo and sedans DZire, SX4, in the 'C' segment Maruti Eeco, Multi Purpose vehicle Ertiga and Sports Utility vehicle Grand Vitara. The first ever Indian company to manufacture low cost cars, in collaboration with Suzuki of Japan, Maruti is considered to be the largest automobile company in India.

RESEARCH METHODOLOGY:

Objectives of the study

- To identify the components of SGR and the efficiency in their usage,
- To study the impact of the component on the SGR,
- To study the relationship between SGR and actual growth rate (AGR)

Period of the study

The study is conducted based on the audited financial statements of TATA motors and Maruti Suzuki for the period of 5 years. (2008 to 2012)

Tools and techniques

1. Ratio analysis
2. Correlation with hypothesis test

ANALYSIS

The component of capital employed by the two companies is presented in Table-1. Both the companies have relied much on the internally generated funds rather than debts or equity. Maruti Suzuki used their own fund while TATA motors used more external fund in their capital structure.

Table – 1: Components of Capital Employed
(In Crore)

Year	Maruti Suzuki Motors			Tata Motors		
	Share Capital	Reserve & Surpluses	LOAN	Share Capital	Reserve & Surpluses	LOAN
2008	144.50	8270.90	900.20	385.54	7428.45	6280.52
2009	144.50	9200.40	698.90	514.05	11855.15	13165.56

Table – 4

TATA MOTORS (Rs. Crore)						
YEARS/Details	2008	2009	2010	2011	2012	AVG.
Sales	33123.54	28538.20	38173.39	52067.87	59220.94	32852.59
PAT	2028.92	1001.26	2240.08	1811.82	1242.23	1664.86
Total assets	14120.02	25559.83	31429.69	35912.05	30379.29	27480.18
Net worth	7839.50	12394.27	14803.78	20013.30	19367.66	14883.702
Dividend	578.43	311.61	859.05	1274.23	1280.70	859.804
RE	2383.07	2053.92	2934.13	2278.92	1858.91	2303.59
Ratios						
Profit margin	6.96	3.77	2.26	3.47	2.26	3.74
ATR	2.69	1.88	1.95	2.22	1.64	2.076
Asset/NW		1.80	2.06	2.12	1.79	1.94
ROE		0.19	0.51	0.25	0.35	0.33
Retention ratio		0.69	0.62	0.30	0.030	0.41
SGR(ROE*RE)		0.13	0.32	0.75	0.011	0.30
AGR		0.16	0.34	0.36	0.14	0.32

PAT = Profit after tax
ATR = Asset Turnover Ratio
NW = Net Worth
RE = Retained Earning

2010	144.50	11690.60	821.40	570.60	14208.55	16625.91
2011	144.50	13723	309.30	634.65	19351.4	15898.75
2012	144.50	15042.90	1078.30	634.75	18709.16	11011.63

The summarized results are shown in Table-2 and calculation of SGR and AGR of Tata motors and Maruti Suzuki are presented in table-3 and table-4 respectively.

Table – 2 : Summary Results

	Average	Coefficient of Variance	CAGR
Maruti Suzuki		%	%
Profit margin	6.812	15	12
Retention ratio	0.91	30	25
ATR	2.63	25	-12
Assets/NW	1.07	35	-15
Tata Motors			
Profit margin	3.744	17	16
Retention ratio	0.41	38	29
ATR	2.08	25	12
Assets/NW	1.94	40	-5

CAGR: Compounded Annual Growth Rate, CV: Co-efficient of Variation

Table – 3

Maruti Suzuki (Rs. Crore)						
Years	2008	2009	2010	2011	2012	AVG.
Sales	21200.40	23381.50	32174.10	40865.50	39495.30	31423.36
PAT	1730.80	1218.70	2497.60	2288.60	1635.20	1874.18
Total assets	9315.60	10043.80	12656.50	14176.80	16265.70	12491.68
Net worth	8415.40	9344.90	11835.10	13867.50	15187.40	11856.06
Dividend	144.50	101.10	173.30	216.70	216.70	170.46
RE	7198.80	8126.10	10299.70	12086.70	13241.20	10190.5
Ratios						
Profit Margin	9.34	5.72	8.34	6.13	4.53	6.81
ATR	2.48	2.38	2.82	3.13	2.34	2.63
Asset/NW		1.11	1.07	1.07	1.02	1.07
ROE		0.19	0.51	0.25	0.35	0.33
Retention Ratio		0.91	0.93	0.91	0.87	0.91
SGR (ROE*RE)		0.17	0.47	0.23	0.31	0.30
AGR		0.10	0.38	0.27	-0.033	0.18

AGR = Actual Sales Growth Rate
The Analysis from table 3 and 4 and reveals that SGR of Maruti Suzuki were higher than AGR except 2011. In 2012 AGR of Maruti Suzuki was negative because of decline in

sales. While in TATA Motors AGR were higher than SGR except in 2011.

COMPONENT – WISE ANALYSIS:

Profitability Analysis:

The average profit margin of Maruti Suzuki was higher than the TATA motors. While co-efficient co variance of Tata motors was higher than Maruti. The CAGR was also higher in case of Tata motors.

Table – 5: Major Cost Components (% of sales)

Maruti	2008	2009	2010	2011	2012
RM/sales	0.66	0.68	0.70	0.71	0.72
EC/sales	0.0168	0.020	0.0169	0.0172	0.021
S&A/sales	0.025	0.035	0.032	0.028	0.031
TATA					
RM/sales	0.63	0.66	0.66	0.67	0.69
EC/sales	0.047	0.054	0.048	0.044	0.045
S&A/sales	0.066	0.058	0.056	0.054	0.055

RM = Raw Material;
EC = Employee Cost;
S&A = Selling and Administration Cost

From the analysis we can also say that both Maruti Suzuki and tata motors has spent almost same amount of sales on Raw Material. Both companies have spent fewer amounts on selling and administration as well as Employees. But TATA motor has spent more amount on Employee and S&A as compare to Maruti Suzuki.

ASSET TURNOVER:

The assets turnover of both the firms was exceptionally high compared with any industrial standard. TATA s asset turnover was 2.08 while Maruti Suzuki’s turnover was 2.63 times. ATR of Maruti Suzuki indicates better utilization of assets.

Leverage:

In 2008 TATA were conservative in using external debt during the study period, and they have 0.80 debts in total funds. While Maruti Suzuki was using their own fund in 2008 and their leverage is 0.10 debts out of total funds. And Maruti has continuously decreasing the portion of debt by 0.07, 0.06, 0.02, and 0.07 in 2009, 2010, 2011, and 2012 respectively. While TATA’s leverage is 1.06, 1.12, 0.79, and 0.56 in 2009, 2010, 2011, 2012 respectively, so they are using more debt fund in their total fund which is more risky.

RETENTION RATIO:

Here Maruti Suzuki’s retention ratio is 0.91 and TATA motors’ is 0.41. So the Maruti Suzuki has adopted conservative dividend policy while TATA motors have a liberal dividend policy, in the 2008 their ratio is 0.69 while it reduce and till 2012 it lead to 0.33, so they are adopting liberal dividend policy from time to time.

OVERALL PERFORMANCE:

Table -6 Growth rate

	TATA Motors	Maruti Suzuki
CAGR of net worth (%)	36	42
CAGR of net assets (%)	39	44

Above table shows that the growth rates of both the firms in terms of net worth and net assets. TATA motors have CAGR of net worth at 36% and CAGR of net assets at 36%. But the Maruti Suzuki has CAGR of net worth at 42% and the CAGR

of net worth at 44%. In short, we can concluded that Maruti Suzuki have higher value than TATA motors.

CORRELATION ANALYSIS:

As per our discussion, if targeted sales increase faster than the SGR, the sustainable growth challenges (SGC) is positive and operating and financial adjustment need to be made in order to restore an accounting and operating balance such that SGR – 0. This is accomplished by increasing the SGR. In contrast, if SGR is negative which may occurs with scale inefficiencies in the utilization of existing recourses, targeted sales growth will be lower than the SGR. Hence always there is a close relationship existing between the SGR and AGR to ascertain their relationship and to test whether In order to examine whether there is significant difference between SGR & AGR T – Test is applied Null Hypothesis (H0): There is no significant difference between SGR and AGR Alternate Hypothesis (H1): There is significant difference between SGR and AGR.

Table – 7

	r	t
Maruti Suzuki	0.50	/1.43/
TATA Motors	0.87	/0.45/

The Karl Pearson’s correlation coefficient of Maruti Suzuki is 0.50 & TATA motors is 0.87 which indicates that the degree of relationship between SGR & AGR is higher in TATA motors & lower in Maruti Suzuki. There is a strong positive association between the two variables in case of TATA Motors.

The Calculated values of ‘T’ of Maruti Suzuki & TATA are 1.43 & 0.45 respectively. The critical value of ‘T’ with 6 degrees of freedom and at 5% level of significance is 1.943. As the calculated value of Tata motors is less than table value, we accept null hypothesis and conclude that there is no significant association between SGR and AGR. In case of Maruti Suzuki calculated value is lower than table value. Hence, null hypothesis is accepted.

CONCLUSION

Monitoring the current situation and progress of a company by mapping its sustainable growth rate helps managers to ensure that the scarce resources are allocated wisely. Also, it ensures the company’s operating and financial policies go in consistently with the sustainable growth rate and serve as valuable tools in the process of coordinating plans and actions by combining two sets of ratios of SGR equation. The first set indicates the retention ratio and leverage ratio whereas the second set includes the asset turnover ratio and profitability ratio. The former two ratios can be described as policy statements of a company reflecting the management’s attitude towards the risks and opportunities it expects in the future and the latter two ratios are outcomes of managerial actions; the end result is the overall improvements in its operational and financial performances. In short, using the four component ratios, SGR concept serves as the best tool for prospective firms to fix a target growth rate using internally generated funds and improve their operating and financial performances over a period of time. This project also substantial the above arguments and illustrates how the two firms, viz. Tata Motors and Maruti Suzuki have used the internally generated funds to exploit the fast growing automobile industry and become progress.

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