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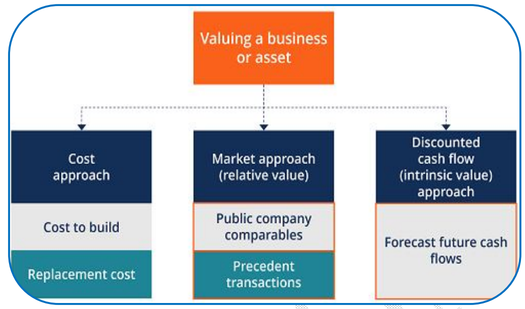
ANALYSIS OF CORRELATION IN BUSINESS VALUATION BY PRICE EARNING MULTIPLE METHOD AND CURRENT MARKET VALUE METHOD



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ABSTRACT:
A business valuation compares a firm's value with its competitors to determine the firm's financial worth. There are various business valuation models but Relative valuation model is a very useful and effective tool in valuing an asset, businessman may use relative valuation models for determining whether a company's stock is a good to buy of not.

KEYWORDS*: Business valuation, P/E multiple, Earning per Share, Market Value, Book Value.*

1. INTRODUCTION:

Valuing a business is a pivotal function while acquiring a company as the buyer will be willing to pay. Valuation is used for stock selection, concluding market expectation, evaluating corporate events, setting up an opinion, evaluating business strategies, as a communication among management, and appraisal etc.

Business valuation is a powerful tool to find out intrinsic value of business. It guides to the managers to run their companies in an increasingly competitive world. By integrating accounting and performance measures with strategic thinking and day-to-day operations, managers can learn to take decisions that enhance their businesses and add real value. Investors are paying great attention to non-financial factors in their efforts to assess the value of corporations. If the economic environment in which the company operates is unstable, there is much risk in valuation of such company because it affects on market value of company and estimation may go wrong in future.

1.1 Business valuation by Relative valuation methods

In the process of business valuation, when accounting information is not easily available relative valuation is most useful tool for quick assessment of the company's value. This method does not consider the time value of money. In this method the experts calculate ratio or multiple to express the value of a company in relation to a certain variable. Following Multiples may be used to find business valuation

1. Price Earnings Multiples
2. EV/EBITDA Multiples
3. Price to Book Value Multiple (P/B)
4. Current Market Value

1.1.1 Price/Earnings Multiple (P/E):

The P/ E Multiple is one of the most common indicator to judge the worth of a company's share. Most of the investors generally watch the progress of stock indices like Sensex & Nifty to understand whether the market is falling or rising.

This multiple basically tells investor what is the price to be paid per share for one rupee of earning generated by Target Company. If the P/E multiple is high, it means that, investors are optimistic and are expecting higher earnings growth in the future and if P/E multiple is low, it means that the stock is undervalued and there is a scope for appreciation in future. Stocks with P/E ratio less than 10 are often considered as cheaper. These types of stocks often provide a good opportunity for buying.

Formula:

$$\textbf{P/E Ratio} = \frac{\text{Market Price per share}}{\text{Annual Earnings per share}}$$

P/E ratios alone cannot be used for decision making and an investor should also check the quality of profits as well as its sustainability before taking a final call.

APPLICABILITY OF THIS MULTIPLE:

i. If company is in profit then only this multiple can be considered, in case of loss making company it is not applicable.
ii. This multiple is used when investor wanted to know, by how much times he should pay with respect to earning of company when buying the shares of company.
iii. When investor or buyer wants to know the lowest minimum amount at which deal would be carried, in such circumstance this method is applied.
iv. High Price to earnings ratio indicates that investors are expecting high earning growth in future. But while investing purpose, only P.E ratio should not be considered as a standalone parameter.

Limitations of Price to Earnings Multiple

i. A multiple represents a snapshot of where a firm is at a point in time, but it fails to capture the dynamic and ever-evolving nature of business and competition.
ii. As a company, it can manipulate its earning, so EPS as well as Price to earnings ratio can be distorted.
iii. Trailing P.E ratio takes the past earnings of a company into consideration. So, this ratio won't provide investor a clear idea of future earning prospective of a company.
iv. Multiples are based on historic data hence valuations based on multiples will therefore fail to capture differences in projected performance over the longer term, and will generate difficulty to value correctly cyclical industries unless somewhat subjective normalization adjustments are made.

Risk involved in this method

i. Price to earnings ratio is a good and simple measure of stock valuation, but investor should not consider this multiple alone, during investment decision.
ii. Investor should check out all other fundamental parameters in conjunction with P.E ratio before investing.
iii. If Investor find that the Earning per share is increasing at a certain rate, but P.E ratio is not increasing due to bad market condition then consider it as a good opportunity to buy the stocks.

1.1.2 Current Market value Method

Market value is the value of a company as reflected by the company's stock price. A company's market value is a good indication of investors' perceptions of its business prospects. Market value can fluctuate a great deal over periods of time, and is substantially influenced by the business cycle. Market

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values plunge during the bear markets that accompany recessions, and rise during the bull markets that are a feature of economic expansion.

2. REVIEW OF LITERATURE:

i. Damodaran Aswath (2005), in his research paper **"*Valuation Approaches and Metrics: A Survey of the theory and Evidence*"**, focused on theory and evidence on valuation approaches. In the first part, The author surveyed the literatures on discounted cash flow valuation models, from dividend discount model to value stocks to the use of excess return models in more recent years. In second part, he focused on relative valuation models and use of multiples and comparables in valuation to know whether relative valuation models gives more or less clear-cut prediction of value than discounted cash flow models.

ii. Berkman Henk et.al (2000) in research article "***The Accuracy of Price-Earnings and Discounted Cash Flow Methods of IPO Equity Valuation"***, they compared valuation resulting from conventional discounted cash flow and price earnings valuation methods to the market price. They took newly listed 45 companies on New Zealand Stock Exchange to compare valuation and they concluded that, the discounted cash flow method and price earnings comparable do not produce the same result.

iii. Platt Harlan, et al.,(2010) in research paper ***"Free Cash Flow, Enterprise Value, and Investor Caution",*** they compared actual cash flows with enterprise values and found that the equity market is an extremely high discount rate which reduces future earnings of firm value. In of case high discount rate the huge amount of future cash flows is practically ignored. They found that stock prices do not reflect future corporate earnings, this finding contrast with the well known statement in finance textbooks that "the value of a firm equals the present discounted value of future cash flows." In fact, they found that enterprise value is substantially less than the present value of future cash flows.

iv. Fernandez Pablo (2007) in research paper ***"Company Valuation Methods: The most common errors in Valuation",*** author described four main, frequently used company valuation methods such as balance sheet methods, income statement based methods, mixed methods and cash flow discounting based methods. The author says that, cash flow discounting based methods most conceptually correct methods. This paper gives the list of most common errors in valuation which are found in more than one thousand valuations when he worked as a business consultant and professor.

RESEARCH GAP:

Business analysts are still facing estimation challenges due to lack of clear guidelines about estimation practices. By referring the literature it is seen that valuation practitioners ignore the recommendations provided by the theory which creates ambiguity in final business valuation. There is a need of more accurate and suitable models which will minimize risk in valuation by giving same value of business. Valuation estimates can vary widely among experts, these variations arise because, experts use different valuation models or make different assumptions because estimating parameters in the models are not clear.

3. Research Methodology:

3.1 Research Type:

This research comes under exploratory research type, because it is a kind of post martum analysis of annual reports of the targeted company

3.2 Hypothesis of the Study

H0: Business valuation by Price Earning Multiple method and Current Market Value method is not positively correlated

H1 Business valuation by Price Earning multiple method and Current Market Value method is positively correlated

3.3 Target population

There are 23 listed automotive companies which have manufacturing plants around Pune region which are listed in either at Bombay Stock Exchange or National Stock Exchange.

3.4 Sampling Technique

This research comes under Non-Probability sampling type where researcher has used Convenience Sampling method while selecting a sample.

The sample is selected on the basis of listing on stock exchange, group it belongs to and growth prospects.

3.5 Determination of Sample size

There are 23 listed automotive companies in Pune region, here researcher has selected Bajaj Auto Ltd for the study.

3.6 Data Collection Sources:

This research requires only secondary data, which is collected through Research journals, published articles, and consolidated annual reports of company, BSE and NSE Websites.

3.7. Tools used for Data Analysis

a) Financial Tools

1. Price/Earnings Multiple (P/E):
2. Current Market value Method

b) Statistical Tools

Karl Pearsons Correlation Coefficient

4. Data Analysis

Company Name: Bajaj Auto Ltd

4.1 Method 1: Business Valuation By Price Earning Multiple Method

Amount in Crores

Particulars	2013-14	2014-15	2015-16	2016-17	2017-18
Market price per share	2083.60	2016.60	2,422.45	2948.70	3080
Earning per share	116.80	104.60	135.8	132.30	140.6
(a) P/E Ratio	17.8	19.3	17.8	22.3	21.9
(b) Net profit Earned (In Cr.)	3380.28	3025.63	4061.24	4079.49	4218.95
Value of firm (Cr.)= (a)*(b)	**60301.0**	**58331.6**	**72445.9**	**90923.6**	**92420.8**

Table no 1

4.2 Method 2: Business Valuation By Current Market Value Method

Amount in Crores

Particulars	2013-14	2014-15	2015-16	2016-17	2017-18
Equity shareholders capital	144.68	289.37	289.37	289.37	289.37
No of shares in Crores	14.46	28.94	28.94	28.94	28.94
Market price per share	1981.00	1463.25	1678.8	2948.70	3080
(a)Market value of Equity= No of Equities* market price per share	28645.26	42342.07	48579.44	85326.53	89125.96
(b)Market Value of Debt	1361.03	347.45	438.96	568.2	604.34
Value of firm= (a)*(b)	30006.29	42689.52	49018.40	85894.71	89730.30

Table no 2

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4.3 Analysis of Correlation between Business Valuation by Price Earning multiple method and Current Market Value method

Amount in Crores

Year	2013-14	2014-15	2015-16	2016-17	2017-18
Valuation by P/E Multiple Method (x)	60300.95	58331.6	72445.9	90923.6	92420.8
Valuation by Current market value (y)	30006.29	42689.5	49018.4	85894.7	89730.3

Table no 3

4.4 Karl Pearson's Correlation Formula

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]}}$$

r= Correlation Coefficient
n= Total number of observations
x = variable 1 (Valuation by P/E Multiple Method)
y = variable 2 (Valuation by Current market value)

Meaning of r

- If r= 1 means that for every positive increase in one variable, there is a positive increase of a fixed proportion in the other.
- If r= -1 means that for every positive increase in one variable, there is a negative decrease of a fixed proportion in the other.
- If r= 0 means that for every increase, there isn't a positive or negative increase. The two just aren't related.

4.5 Calculated value of coefficient of Correlation by using formula r= 0.968

Interpretation:

1. Correlation coefficient r= 0.968, it is approximately equal to 1. It means that there is strong positive correlation between Business valuation calculated by Price Earning multiple method and Current market value method.
2. It rejects the null hypothesis i.e. Business valuation by Price Earning multiple method and Current market Value method are not positively correlated.
3. Hence we conclude that Business valuation by Price Earning multiple method and current market value method are positively correlated.

5. FINDINGS

1. Relative valuation method is useful to find out fundamental value of business.
2. A method available under relative valuation methods such as Price earning multiple, price to book value multiple, current market value method gives realistic valuation.
3. Discount rate is not considered in such valuation so it shows basic value of business from which buyer or seller can start bid.

6. CONCLUSION

Business valuation by Price Earning Multiple method and Current Market Value method are positively correlated, as a businessman or investor by using above mentioned business valuation methods, he can check value of his business to understand the progress of his business. Business

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valuation by relative valuation methods are relatively easy as compared with discounted techniques of valuation.

7. SCOPE FOR THE FUTURE RESEARCH:

Present research work is only calculation of fundamental value of business by considering Relative valuation techniques such as Earning price Multiple and Current market vlue method, wherein goodwill of the organization is not considered. Researcher can do further research work by considering goodwill of the organization in final value of business.

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