

RELATIVE VALUATION MULTIPLES: VALUING THE LISTED TRACTOR COMPANIES IN BOMBAY STOCK EXCHANGE

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Abstract: This article investigates the multiples in valuing the tractor companies listed in Bombay Stock Exchange in India from 2014 to 2019. The tractor sector typically employs homogenous business models. Valuation of company stock is a significant aspect of investment decision making. Investment analysts usually value stocks of companies for investors who want to buy or sell stocks. It is discovered that commonly adopted methodologies in valuation multiples are associated with pitfalls which may hamper the reliability of the valuations. Hence, relative valuation is occupied based on the assumption that the value of an asset equals its market value. To do relative valuation, the prices of similar or comparable assets are taken as variables to estimate the value of an asset and to control possible differences. Our findings also showed the under- and overvaluation of stocks in the market.

Key words: Relative Valuation, Entity Multiples and Equity Multiples.

I.Introduction

The valuation multiples have been studied taking into account the equity and entity value multiples. Equity valuation multiples are practically used by security and investment analysts to value stock prices. However, little is known on empirical perspective of equity value multiples and stock price especially in Indian markets. This study investigated the influence of EV to Book Capital, EV to EBIT, EV to EBITDA, EV to Fixed Assets, EV to Invested Capital, EV to Total Assets, Market Capitalization to Book Capital, Market Capitalization to EBT, Market Capitalization to Gross Sales, Market Capitalization to Net Profit, Market Capitalization to Net Sales, Market Capitalization to Operating Cash Flow and stock price of Escorts Ltd and VST Tillers Tractors Ltd in India.

Relative valuation involves the use of similar comparable assets in valuing another asset. Relative valuation is also known as comparable valuation. In relative valuation, the benchmark might be the multiple of a similar company or the median average value of the multiple for peer group companies, an equity index or median, or an average own past value of the multiple.

II. Research Idea

The main objective of this paper is to investigate the role of multiples in equity valuation, which leads to investment decision. Breaking down the main objective involves the formulation of ancillary objectives and research questions, which author separates into two different parts: entity multiples and equity multiples. Considering the underlying concept of market-based valuation and the strengths and weaknesses of the standard multiples valuation method, the descriptive statistics have been used.

III. Literature Review

A comparison of the accuracy of P/E multiples from the same industry is done by Boatsman & Baskin (1981). They explain that relative to firms that are chosen randomly, valuation errors are smaller when comparable firms are matched on the basis of similar historical earnings growth.

Barker's (1999a) survey results were derived from both questionnaire and interview investigation, on the existence of industry-preferred multiples. For instance, it has been identified by both Tasker (1998) and Barker (1999a) that practitioners desire using P/B and P/E multiples in the financial industry, price to operating cash flow (P/OCF) multiples in the consumer services industry, or P/D multiples in the utilities industry. These researches, still, do not represent substantiation that the industry-preferred multiples used in practice are also those multiples with the highest valuation accuracy in specific industries.

The valuation accuracy of P/E and P/B multiples, and a combination of both using equal weights are evaluated by Cheng and McNamara (2000). It is identified that for the U.S. equity market, the combined P/E-P/B model's performance is better than either P/E or P/B multiples alone, which indicates that both book values and earnings are value relevant.

A crucial aspect in practice, the distinction between trading and transaction multiples, is picked up by Spremann (2002). The former serve for trading purposes (i.e., buying and selling small proportions of a stock); the latter determine the value of corporate transactions. Hence, the unique characteristic is the magnitude of the transaction. Business transactions engage a considerable alteration in the ownership structure, which usually goes together with a change in the controlling authority of the firm. So, trading multiples are lower than transaction multiples.

In his research, Damodaran (2001, 2002, and 2006) stressed on the explanation of characteristics and determinants of diverse multiples. He augmented it with informative descriptive statistics for different states and industries, and over time.

The book by Lundholm & Sloan (2004) is an additional supply which aids to better understand the determinants of the P/E, the price to book value of common equity (P/B), and the price to earnings. E.g., Benninga & Sarig (1997), Palepu, Healy & Bernard (2000), Damodaran (2001, 2002, and 2006), Penman (2004), Lundholm & Sloan (2004), Arzac (2005), or Koller, Goedhart & Wessels (2005) in English and Spremann (2002, 2004, and 2005), Ballwieser (2004), or Richter (2005) in German. 14 Literatures review to earnings growth (PEG) multiple, and their mathematical relationship to the accounting based RIV model and among each other.

More practically orientated, Arzac (2005) and Koller, and Goedhart & Wessels (2005) focused on the development of criteria for the recognition of comparable firms. In an ideal world, comparable firms have the same operating and financial characteristics as the firm being valued. However, even in delicately defined industries, “true” comparables are not always obtainable.

In contrast, Arzac (2005) suggests a substitute method to ultimately get suitable multiples for all firms of the matching industry and similar size. He uses valuation theory to show how to alter observed P/E multiples for differences in leverage and growth.

A commonly ignored concern was dealt by Benninga & Sarig (1997) and Penman (2004): the significance of using the unchanged data definition for the calculation of multiples. That is, the value of a certain multiple relies on the use of historically rolling, trailing, or forward-looking data for a preferred value driver and the description of the share base. Multiples analysis can be made worthless but different data definitions across multiples of comparable firms. Working with raw data and calculating multiples themselves, instead of adopting already calculated multiples from data providers without knowing the underlying data definition is the recommendation of Penman (2004).

Enterprise value (EV) multiples are expressed as a ratio of capital investment to a financial metric, which is attributable to the providers of capital. EV is the equivalent of the sum of market value of equity and debt minus cash. This is mostly a quantitative research where past data is scrutinized with arithmetical and statistical models, in order to arrive at a valuation of similar firms.

IV.Data Collection

All historical financial data are extracted from annual reports of selected companies. All data have been entered and processed in Microsoft Excel by the authors themselves. All the companies used in this paper are listed on the Bombay Stock Exchange.

V.Results and Discussion

Table 1.1 EV to Book Capital

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	2.25	2.73	3.62	3.88	2.98	2.84	3.05	0.60	19.68%
VST Tillers Tractors Ltd	1.80	1.80	2.11	2.49	2.87	2.60	2.28	0.45	19.56%

It is inferred from the above table that the EV to Book Capital for both the firms are rising from 2014 to 2016 and decreasing from 2017 to 2019. Both stocks follow upward trend in the early years and downward trend in the later years. Further, it is observed that the coefficient of variation is almost similar for both the stocks. EV is greater than Book Capital all the years which clearly indicates there would be future cash flows expected from these comparable firms.

Table 1.2 EV to EBIT

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	8.52	11.62	22.21	41.25	48.66	16.17	24.74	16.49	66.67%
VST Tillers Tractors Ltd	15.64	7.50	9.71	10.25	11.24	9.33	10.61	2.76	25.98%

It is inferred from the above table that the EV to EBIT for both the firms are initially in upward trend then move to downward trend. EV is greater than EBIT in all these years which clearly indicates there will be future operating cash flows expected from these comparable firms. Further, it is observed that Escorts Ltd.'s Standard deviation and coefficient of variation is higher than VST Tillers Tractors Ltd.

Table 1.3 EV to EBITDA

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	10.01	13.46	23.85	39.23	41.74	17.40	24.28	13.39	55.15%
VST Tillers Tractors Ltd	12.89	7.00	8.83	9.22	10.30	9.04	9.55	1.95	20.45%

It is inferred from the above table that the EV to EBITDA for both the firms are rising from 2014 and are decreasing from 2016. Both the stocks follows upward trend in the early years and experienced downward trend except VST Tillers Tractors Ltd in 2019. Further, it is observed that the coefficient of variation is not similar for both the stocks. EV is greater than EBITDA all these years which clearly indicates there would be future cash flows expected from these comparable firms.

Table 1.4 EV to Fixed Assets

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	4.77	4.98	5.10	5.08	4.99	4.87	4.96	0.13	2.54%
VST Tillers Tractors Ltd	4.80	5.37	7.35	8.89	8.44	9.29	7.35	1.88	25.60%

It is inferred from the above table that the EV to Fixed Assets of Escorts Ltd is increasing from 2014 to 2017 and slowly decreases from 2018 and 2019. Whereas EV to Fixed Assets of VST Tillers Tractors Ltd is decreased from 2015. Further it is observed that the coefficient of variation is not similar for both the stocks VST Tillers Tractors Ltd experienced higher standard deviation over Escorts Ltd. However, EV is greater than Fixed Assets all these years which clearly indicates there will be an effective utilization of fixed assets by Escorts Ltd.

Table 1.5 EV to Invested Capital

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	2.46	3.17	4.21	4.60	3.39	3.08	3.49	0.79	22.55%
VST Tillers Tractors Ltd	1.85	1.85	2.26	2.65	3.01	2.74	2.39	0.48	20.25%

It is inferred from the above table that the EV to Invested Capital of Escorts Ltd and VST Tillers Tractors Ltd are increasing from 2014 to 2017 but is slowly decreasing from 2018 Escorts Ltd. However, it is still higher than VST Tillers Tractors Ltd. Further, it is observed that the coefficient of variation are more or less similar for both the firms.

Table 1.6 EV to Total Assets

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	1.75	2.07	2.57	2.80	2.35	2.26	2.30	0.37	16.05%
VST Tillers Tractors Ltd	1.54	1.47	1.83	2.16	2.44	2.46	1.98	0.44	21.98%

It is inferred from the above table that the EV to Total Assets of Escorts Ltd and VST Tillers Tractors Ltd are increasing from 2014 to 2017 and is slowly decreasing from 2018 for Escorts Ltd but still higher than

VST Tillers Tractors Ltd's. Further, it is observed that the coefficient of variation is not similar for both the firms. VST Tillers Tractors Ltd's EV to Total Assets is not stable.

Table 2.1 Market Capitalization to Book Capital

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	3.13	10.87	31.33	16.10	6.45	8.41	12.71	10.11	79.51%
VST Tillers Tractors Ltd	1.06	1.05	1.25	1.49	1.72	2.00	1.43	0.38	26.74%

It is inferred from the above table that the Market Capitalization to Book Capital of both the firms are not following a similar trend. Both stocks follow a Zigzag movement in the years of study. Further, it is observed that the coefficients of variation are not similar for both the firms. Market Capitalization is greater than EBITDA all these years which clearly indicates there will be future cash flows expected from these comparable firms.

Table 2.2 Market Capitalization to EBT

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	11.69	47.25	203.33	234.36	167.72	57.01	120.23	93.05	77.39%
VST Tillers Tractors Ltd	1.25	0.59	0.77	0.81	0.89	0.73	0.84	0.22	26.67%

It is inferred from the above table that the Market Capitalization to EBT for both the firms are not following a similar trends and are also not in similar size. Further, it is observed that the coefficients of variation are not similar for both the firms' i.e Escorts Ltd (77.39%) and VST Tillers Tractors Ltd (26.67%). The Market Capitalization is greater than EBT all these years for Escorts Ltd but for VST Tillers Tractors Ltd which clearly indicates that there will not be great future cash flows expected.

Table 2.3 Market Capitalization to Gross Sales

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	1.34	4.79	12.10	6.78	2.86	2.38	5.04	3.96	78.62%
VST Tillers Tractors Ltd	1.88	1.51	1.70	1.78	2.09	1.85	1.80	0.19	10.68%

It is inferred from the above table that the Market Capitalization to Gross Sales for Escorts Ltd is rising from 2014 to 2017 and is decreasing from 2018. With respect to VST Tillers Tractors Ltd, it is rising from 2014 to 2015 and is decreasing from 2016 except 2019. Further, it is observed that the coefficients of variation are

not similar for both the firms. Market Capitalization is greater than Gross Sales during these years which clearly indicates there will be future cash flows expected from these comparable firms.

Table 2.4 Market Capitalization to Net Profit

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	17.44	69.38	385.29	330.18	155.41	63.52	170.21	152.94	89.86%
VST Tillers Tractors Ltd	1.60	0.66	0.89	1.00	1.06	0.89	1.02	0.32	31.25%

It is inferred from the above table that the Market Capitalization to Net Profit for Escorts Ltd is rising from 2014 to 2017 and is decreasing from 2018. With respect to VST Tillers Tractors Ltd, it is rising from 2014 to 2015 and is decreasing from 2016 except 2019. Further, it is observed that the coefficients of variation are not similar for both the stocks. Market Capitalization is greater than Net Profit across the years for Escorts Ltd.

Table 2.5 Market Capitalization to Net Sales

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	1.34	4.81	12.32	6.93	2.91	2.42	5.12	4.04	78.90%
VST Tillers Tractors Ltd	1.82	1.47	1.66	1.73	2.03	1.80	1.75	0.19	10.68%

It is inferred from the above table that the Market Capitalization to Net Sales for Escorts Ltd is rising from 2014 to 2017 and is decreasing from 2018. With respect to VST Tillers Tractors Ltd, it is rising from 2014 to 2015 and is decreasing from 2016 except 2019. Further, it is observed that the coefficients of variation are not similar for both the firms. Market Capitalization is greater than Net Sales in these years which clearly indicates there will be future cash flows expected from these comparable firms.

Table 2.6 Market Capitalization to Operating Cash Flow

Year	2019	2018	2017	2016	2015	2014	Mean	SD	C.V
Escorts Ltd	17.73	50.98	168.84	103.04	103.04	47.77	81.90	54.21	66.19%
VST Tillers Tractors Ltd	19.08	19.27	7.43	7.44	24.75	4.91	13.81	8.22	59.49%

It is inferred from the above table that the Market Capitalization to Operating Cash Flow for Escorts Ltd is rising from 2014 to 2017 and is decreasing from 2018. With respect to VST Tillers Tractors Ltd, it is rising from 2014 to 2015 and is decreasing from 2016 and 2017 thereafter rising in the year 2018 and further declining in the last year. Further, it is observed that the coefficients of variation are similar for both the firms.

Market Capitalization is greater than Operating Cash Flow all these years which clearly indicates there will be future cash flows expected from these comparable firms.

As discussed above, the essential idea of the entity valuation for the Escorts Ltd and VST Tillers Tractors Ltd is done from 2014 to 2019. This study examines the accuracy of relative valuation methods in the tractor sector, using enterprise value as a proxy for entity value.

VI. Findings

- Selected findings include the following. First, over the last decade, book value multiples have performed significantly better than earnings multiples in auto companies.
- EV is greater than Book Capital all the years which clearly indicates there would be future cash flows expected from these comparable firms.
- EV is greater than EBITDA all these years which clearly indicates there would be future cash flows expected from these comparable firms.
- EV is greater than Fixed Assets all these years which clearly indicates there will be an effective utilization of fixed assets by Escorts Ltd.
- The coefficient of variation is not similar for both the firms. VST Tillers Tractors Ltd.'s EV to Total Assets is not stable.
- Market Capitalization is greater than EBITDA all these years which clearly indicates there will be future cash flows expected from these comparable firms.
- The Market Capitalization is greater than EBT all these years for Escorts Ltd but for VST Tillers Tractors Ltd which clearly indicates that there will not be great future cash flows expected.
- Market Capitalization is greater than Gross Sales during these years which clearly indicates there will be future cash flows expected from these comparable firms.
- Market Capitalization is greater than Net Profit across the years for Escorts Ltd.
- Market Capitalization is greater than Net Sales in these years which clearly indicates there will be future cash flows expected from these comparable firms.
- Market Capitalization is greater than Operating Cash Flow all these years which clearly indicates there will be future cash flows expected from these comparable firms.

VII. Conclusion:

This study evaluates the accuracy of relative valuation models in the tractor sector. Earnings are only a subset of the information provided by analysts. Furthermore, market-based valuation multiples in this study

indicate that earnings is the prime value driver in traditional industry because multiples produces best valuation performance. Therefore, focusing and investing in Escorts Ltd would be the right choice for the rational investors.

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