

Criteria for selection of comparable companies through multiple evaluation

COORDINATOR: PROF. UNIV. DR. CIOBANU ANAMARIA
GRADUATE: VINATORU MARIAN- SORIN

Abstract

Economic literature presents conceptual evaluation process as a conscious and deliberate act that attempts to determine, with accuracy as high a figure around which to build a confidence interval represents the most probable value evaluator conception to topic evaluated. Value of a company is based on its intrinsic features , the fact that the whole is always more than the sum of its parts (the system includes subsystems and functional links between them) is usually determined by people outside the business enterprise .

Introduction

First, I chose this topic for the difficulty of finding studies on evaluating the market multiples method and on the other hand , I felt a subjective motivation , the desire to investigate an area of interest, they want to improve myself and also to teachers.

This paper focuses on studying the characteristics of comparable companies used in the assessment by multiples of listed companies . In this assessment selection methods are tested performance of companies comparable groups (eng. Peer group) with the multiple criteria : P / E, P / BV , P / TA , EV / EBITDA for the periods 2007 and 2013.

To achieve relevant databases will choose companies based on several criteria :

- the business or geographical area of work
- company size will be comparable (eg in terms of total assets , turnover, equity)
- economical and financial similar parameters

In evaluation through the multiples is important to follow some basic steps : first phase refers to the multiple choice / multiples that are based evaluation subsequently will determine the method of selection of comparable companies , given the criteria related to affiliation specific

industry based on ROE , ROA , total assets or combinations of these factors. Thus this study will analyze the accuracy of the P / E, P / B , P / TA , EV / EBITDA in the context of comparable firms are selected according to the criteria : IND, ROE, TA respective combinations of these criteria, the comparable companies listed on stock exchanges in New York (NYSE)

Evaluation based on multiples is widespread having as advantage that it is quick and seemingly easy to estimate the value of a business or investment cues , users find both investment professionals in the capital markets (business appraisers , portfolio managers , consultants investment brokers) and nonprofessional investors more or less sophisticated .

In the specialized literature and practice are a series of evaluation methods by industry according to the industry of which the company , its characteristics (eg , whether it is a start- up or mature company) , and preferably and experience of the analyst.

Literature review

Penman (2004) defines a multiple (market) as the ratio of the variable (eg stock price , market capitalization or enterprise value) and a determinant of value (such as profits , earnings or labor force) of a company .

Evaluation based on multiples is widespread having the advantage that it is quick and seemingly easy to estimate the value of a business or investment cues , users find both investment professionals in the capital markets (business appraisers , portfolio managers , consultants investment brokers) and non-professional investors more or less sophisticated .One of the attractions of multiples is that they have a simple logic , are easy to understand and presented by professionals in the reports made by their clients . On the other hand multiples are indicators which mostly can give accurate information on market tenditelor (multiples calculated for a stock exchange) , to the evolution of a particular economic sector (multiples calculated for a given sector)

Damodaran (2002) explained that the use of multiple subjectivity occurs, when the evaluator must choose (subjective) comparable companies. Schreiner (2007, p.4) also argues that using multiples in corporate assessment is difficult in practice because many practitioners have good knowledge of multiple choice and also not aimed at effective methodology in selecting comparable companies.

Most empirical research on the subject of valuation multiples focus on choosing the best of the multiple and how to select comparable companies . In total, these studies establish that multiple incomes lead to more accurate predictions than those carrying multiples based on sales values . Multiples calculated based on analysts forecasts achieved better performance than the multiples that are based on historical data taken from its details .

Thus the main reason for the frequency of use in assessing the actions of multiples practice this method is its simplicity . This involves identifying a group of comparable companies whose aggregate multiples in a multiple reference . This determinant is multiplied by the corresponding value of the firm. Since the method of valuation based on multiples consider stock prices of comparable companies can be considered as a method of assessing indirect evaluation approach based on the evolution of the market.

Premises in the existence of efficient capital markets are identified by Reilly and Brown (2003) as follows:

- A large number of participants who pursue profit optimization analyzes and evaluates securities independently of each other;
- New information on the securities market occur randomly;
- Investors who aim to maximize profits, stock prices adjust rapidly to reflect new information.

Under the assumptions presented, the adjustment of stock prices to new information requires a large number of investors are competing, to evaluate the impact of new information on stock prices. These investors determine the price adjustment shares through transactions of sale / purchase they initiate.

A financial market in general is said to be efficient if the market prices fully reflect all the information available that is relevant to the evaluation of listed securities . This means that all information relating to the issuer of the securities must be available on the market so that investors can have access to it.

Over time investors in the capital markets have sought to find a method to identify the real value of a financial asset that will enable them to obtain considerable profits . values so obtained often differs significantly from the market price .

Efficient markets hypothesis is a significant impact on investment and portfolio managers , it assumes that no investor can get a higher return on the market and that is the best strategy of "buy and hold " .

Most valuation models used by financial theory presumes the existence of efficient market . An efficient capital market is a market in which financial asset prices adjust immediately to new information about the issuer of the financial asset or the environment in which it operates, so that the current price reflects all available information on that issue.

De Pinto (2009) , and other authors of the literature states that the evaluation of actions to consider a number of criteria :

- Industry knowledge - Understanding the economic and industry of which the company that impact strategic management is the first aspect to be understood in the assessment of a company. Because of economic and technological factors affecting usually similar all companies in an industry , this knowledge helps analysts understand the basic characteristics of the markets served by a society and its economy .

- Forecasting financial statements and the company's performance - industry analysis and competitive analysis takes place in the broader context of macroeconomic analysis. That forecasting approach by addressing macroeconomic forecasts international , national and passing those related to the industry and then individual forecasts and active this approach is known approach of "top -bottom " .

Benninga and Sarig (1997) have shown how, from forecasts of macroeconomic activity levels , an analyst may design the global industry sales and market share of companies in the industry part to reach forecast revenues of the company. Also possibly can " aggregate " individual perspectives of analysts (possibly obtained by using different methodologies) to forecast industry, and ultimately macroeconomic forecasts ; reaching method called "bottom- up"

- Proper selection evaluation model

- Transformation forecasts Valuation - Estimating involves not only machining of financial statements but also make proposals .

Comparables method, as it is called relative valuation models application in action, involves identifying a multiple reference (multiple benchmark in English.), Generally calculated as an

average of the multiples of similar companies, is a method of assessment that is conducted in 4 Steps:

The first two stages involve multiple choice value and identifying comparable companies. Step three focuses on the aggregation of these multiple unique numbers by estimating synthetic multiples. Finally in step 4th Enterprise value is calculated to be assessed by means of synthetic and values multiples of comparable companies previously selected.

Damodaran (2002 and 2006), is the one who founded the characteristics and determinants explaining various multiples, by performing various descriptive statistics for different countries and industries, over time.

Baker and Ruback (1999) compare the performance based on EBITDA multiples , EBIT and sales for 22 industries analyzed (industries with a minimum of 7 companies that are part of the S & P 500) . In this sense multiple performance proves to be one based on EBITDA , with the highest performance for 10 of the 22 industries analyzed. Also, based on EBIT multiple performs roughly similar to those of multiple based on EBITDA , the most advanced multi case 9 industries.

Lie (2002) studied a list of multiples , based on data from 1998 on over 8,500 U.S. companies. Based on this analysis , it focuses on all the multiples which produce estimators that have a negative displacement estimate multiples based on asset value adjustment of cash held by companies to improve estimates of value.

The study found among other things : a assessments were more accurate for large companies , even if their movement was also more negative than the small and medium enterprises; b for companies with high profits , multiples based on earnings in the evaluation produced positive shifts while asset based multiples produced negative shifts and vice versa for companies with low profits ; c value estimates are generally less accurate for companies with high intangible assets .

Liu, Nissim and Thomas (2007 performed a comparative study between multiples based on earnings multiples respectively based on cash flow from operating activities and dividends.

In the study , it was found that performance increases significantly due to the transition from the predictions raporatate values . EPS forecasts , summary measures of value are substantially better than operating cash flow projections studied in the five countries examined : France, Australia , UK, Hong Kong and Taiwan. Some writers fail to compare dividends to profits due to

the formation of a sample obtained from several countries and found that the expected profits are a better estimate of value than expected dividends for the countries studied , ie selected industries

Therefore , the study concludes , sympathy toward using multiples based on earnings because they have a much higher accuracy for most companies.

Schreiner (2009) examined the accuracy of several multiple studying a sample of about 600 companies over a period of about 10 years (1996-2006) . Rezutatele revealed that : price multiples have results superior to those of multiples of company value.

Research industries , multiple knowledge have greater accuracy than traditional multiples and multiples based on forecasted values are more accurate than those based on historical values

Case Study

The current study examines the accuracy of seven methods for evaluating the following multiples : price / profits , price / book , price / total assets and enterprise value / EBITDA ; when comparable firms that depend on the performance of these evaluation methods are selected on the basis of belonging to SIC code (2000 for the Food & Food Processing) , total assets (TA) and return on equity (ROE) or combinations thereof

Using a sample of companies traded on the New York Stock Exchange (NYSE) for the years 2007 and 2013.

In analyzing the prediction errors were calculated by four multiple evaluations by applying the seven selection methods analyzed. Prediction errors are used to calculate the performance of each method of selection and multiple indiscriminately .

To construct the groups of companies was selected criteria similar to those used in the studies described above as follows :

- **IND** : companies evaluated are selected based on SIC code
- **IND + ROE** : companies are selected based on SIC code and variable values based on ROE
- **IND + TA** : companies are selected based on SIC code and depending on the value of total assets
- **ROE** : closest to the companies in terms of return on equity .
- **TA** : closest to the companies in terms of return on equity .

Another methodological issue that deserves to be discussed concerns the estimator used for aggregating multiples of comparable companies. Thus according to the same statistics from Minjilă, the median is used in seventeen of the studies reviewed, while the harmonic mean was used in thirteen studies. Thus in this study will be used as the median estimator errors.

$$e_{-}(i, t) = \ln \left[\frac{\hat{P}}{P} \right] \left[\frac{\hat{P}}{P} - \ln \left[\frac{\hat{P}}{P} \right] \right]$$

Where: \hat{P} - estimated cost of the action is

P - is the observed price of the share

In 2007 , before the economic crisis , median multiples are 0.14 for ROE, P / E 19.22 , the P / BV 2.25 for EV / EBIT 12.15 for EV / EBITDA 9.90 and P / TA 0.09 . values for 2013 recorded values are 0.10 for ROE, P / E 19.55 , the P / BV 2.13 for EV / EBIT 14.84 for EV / EBITDA 10.41 and P / BP 0.04 .

From these statistics we can see that there is a recovery of the U.S. economy , even if some indicators can notice an improvement after the biggest crash of the last century.

Interesting therapist believes indicator values price / earnings 20.07 in 2007 to 21.95 in 2013 , EV / EBIT 12.15 in 2007 from 14.84 in 2013, respectively EV / EBITDA of 9.90 in 2007 and 10.41 in 2013 indicating a situation , an improved position of economically compared to the pre-crisis had .

Basically, mutiplu P / E multiple is best used in the evaluation because it demonstrates the ultimate goal of any business ie for profit , and its size gives ultimately firm value . Following the results of the multiple in 2013 we can say that the value of recovered companies during difficult.

Given the chart below we can see that the selections IND average is 0.11 and the median error is -0.09 for IND + TA average is 0.10 and the median is 0.03, and the average TA has value of -0.09 and -0.02 median. way to rank first for the most efficient methods and rank 6 is given the least representative metode.Astfel generally negative values show that the selection methods are preferred - plural as bring more accuracy to analyzing selection based on a single manifold.

According to the ranking provided medians prediction error for 2007 decreasing order of selection of the most efficient methods is: ROE; ROE + TA; IND + ROE; TA; IND + TA; IND.

Conclusions

Descriptive statistics results did not differ significantly between the two periods , mutiplu P / E multiple is best used in the evaluation because it demonstrates the ultimate goal of any business ie for profit , and its size gives ultimately firm value . Following the results of the multiple in 2013 we can say that the value of recovered companies during difficult.

Results for 2007 provided by the Wilcoxon rank test are : the selection is performing multiple IND P / BV, the selection is performing multiple IND + ROE P / E, ROE multiple selection performance is P / TA for multiple selections performance is EV / EBITDA , for the selection of multiple TA performance is EV / EBITDA and ROE + TA multiple selection performance is P / BV .

Results for the year 2013 provided by the Wilcoxon rank test are : the selection is performing multiple IND EV / EBITDA , the selection is performing multiple IND + ROE P / E, ROE selection is performing multiple P / E, EV is performing multiple selections / EBITDA multiple for your selection performance is EV / EBITDA and ROE + TA multiple selection performance is P / TA .

Bibliography

1. Benjamin GRAHAM, David L. DODD – Security Analysis, McGraw-Hill Professional Publishing, 1934
2. Andreas SCHREINER – Equity Valuation Using Multiples: An Empirical Investigation Wiesbaden: Deutscher Universitäts-Verlag, 2007
3. Benninga, Simon Z., and Oded H. Sarig. 2003, Corporate Finance: A Valuation Approach. 2nd Edition New York:McGraw-Hill.
4. Block, Stanley B. 1999. “A Study of Financial Analysts: Practice and Theory.” Financial Analysts Journal.Vol. 55, No. 4: 86–95.
5. Dragos I. MÎNJINA, Petre BREZEANU, Catalin HUIDUMAC – Selecting the Group of Comparable Firms for Valuation by Multiples on Bucharest Stock Exchange, Economic Computation and Economic Cybernetics Studies and Research, Vol. 44, Nr. 1, 2010, pp. 183–200
6. Dragos I. MÎNJINA, Petre BREZEANU – Selecting Comparable Firms for Valuation using Multiples – Empirical Evidence on Bucharest Stock Exchange,2009,
7. Erik E. LIE, Heidi J. LIE – Multiples Used to Estimate Corporate Value, Financial Analysts Journal, Vol. 58, Nr. 2, 2002, pp. 1–11
8. Graham, John R. and Campbell R. Harvey (2001): The theory and practice of corporate finance: Evidence from the field, Journal of Financial Economics 60, 187-243
9. Ingolf DITTMANN, Christian WEINER – Selecting Comparables for the Valuation of European Firms, SFB 649 Discussion Paper, 2005
10. Jerald PINTO, Elaine HENRY, Thomas ROBINSON, John STOWE – Equity Asset Valuation, Program Curriculum 2010 Level II: Equity, Vol. 4, Pearson Custom Publishing, 2009
11. Louis K. C. CHAN, Josef LAKONISHOK – Value and Growth Investing: Review and Update, Financial Analysts Journal, Vol. 60, Nr. 1, 2004, pp. 71–86
12. Malcom BAKER, Richard S. RUBACK – Estimating Industry Multiples, Working paper, Harvard University, Cambridge, MA, 1999
13. Marc GOEDHART,– The right role for multiples in valuation, McKinsey on Finance, Nr. 15, 2005,
14. Maug E , J.Kemper (2004): How fundamental are fundamental values? Valuation methods and their impact on the performance of German venture capitalists, European Financial Management.

15. Pinto J. , Robinson T. , Stowe J. McLeavey D. 2007 – Equity Valuation , John Wiley & Sons, Inc.
16. Pinto J. , Robinson T. , Stowe J. McLeavey D. 2009 – Valuation , John Wiley & Sons, Inc.
17. Sanjoy BASU – Investment Performance of Common Stocks in Relation to their Price-Earnings Ratios: A Test of the Efficient Market Hypothesis, Journal of Finance, Vol. 32, Nr. 3, 1977, pp. 663–682
18. Sorin V. STAN (coordonator) – Evaluarea întreprinderii, Editura IROVAL, Bucuresti, 2003
19. Victor DRAGOTA, Mihaela DRAGOTA, Andreea M. STOIAN, Lucian TÂTU, Oana DAMIAN – Evaluarea actiunilor pe piata de capital din România, Editura ASE, Bucuresti, 2005
20. Alford A. - The Effect of the Set of Comparable Firms on the Accuracy of the Price-Earnings Valuation Method , 1992, JSTOR disponibil online [http://dc197.4shared.com/doc/kHRJEMkJ/preview.html 1/]
21. Kendall MG. , Bradford A.H, 1953 - The Analytics of Economic Time Series, Part 1: Prices [Online] - http://www.e-m-h.org/KeHi53.pdf: Accesat : 24.04.2014
22. Damodaran As. On Valuation – http://pages.stern.nyu.edu/~adamodar/ accesat: 25.04.2014 [Online]
23. Finance on Yahoo – Disponibil online la <http://finance.yahoo.com/>
24. Google Finance - Disponibil online la <http://www.google.com/finance>
25. Bloomberg Stock - Disponibil online la <http://www.bloomberg.com/markets/stocks/>
26. Market Watch - Disponibil online la <http://www.marketwatch.com/>