Methods for Determining the Degree of Underestimation or Overrating of Shares Using PER Analysis

Andreea Vasiliu[1], Neculai Tabara [2]

Abstract: Multiples method used in evaluating companies started to gain increasingly more credibility to the specialists compared to the traditional business evaluation methods. There are many studies, both theoretical and empirical, that focus on this topic especially on the accuracy of determining multiples and choosing the peer group (comparable company group selection). The objective of this research is to evaluate the shares listed on the Bucharest Stock Exchange by using multiples method, more precise to determine the degree of underestimation or overrating of shares using PER analysis. The research methodology is a constructivist one, the orientation being one explanatory. Methods and techniques used are quantitative analysis, ARIMA model, correlation and regression. For data collection we used the information from different authorized institutes such as Bucharest Stock Exchange Market, National Agency of Fiscal Administration and the National Institute of Statistics. Research findings can be summarized as follows: calculating growing rate by using the information listed in the balance sheet will lead to an underestimate of the shares, PER lead to an overvaluation of shares, compound average and regression analysis provides the most plausible method of determine the degree of underestimation or overrating of shares for listed companies. The study contributes to the development of company valuation method using multiples.

Keywords: PER; growing rate; comparative method

JEL classification: D46; G11; L25; L74; M41

1. Introduction

Comparative method, also named multiple or analog method (Thauvron, 2007), is one of the most used techniques for the determination of value of companies. Multiple method represents the base of investment or trading decisions for corporates, investment groups, private companies and private investors (Schreiner, 2007, p. III). "Where directly observable prices for identical or similar assets are

---

[1] PhD Student, "Alexandru Ioan Cuza" University of Iasi, Faculty of Economics and Business Administration, Doctoral School of Economics, Accounting Department, Romania, Address: 11 Carol I Blvd, 700506, Iasi, Romania, Tel:+40 (232) 201000, Fax:+40 (232) 201121, Corresponding author: andreea_vasiliu_1986@yahoo.com.

[2] Professor, PhD, "Alexandru Ioan Cuza" University of Iasi, Faculty of Economics and Business Administration, Department of Business Administration, Accounting Department, Romania, Address: 11 Carol I Blvd, 700506, Iasi, Romania, Tel:+40 (232) 201000, Fax:+40 (232) 201121, e-mail: neculaitabara@yahoo.com.

available at or close to the valuation date, the direct market comparison approach is generally preferred " (IVSC, Proposed New International Valuation Standards, iunie 2010, p. 16). Comparison approach is based on a process in which market value is obtained by analysing relevant and related companies, comparing these firms and estimating the value of company by using multiple (Anghel, Oancea Negescu, Anica Popa, & Popescu, 2010, p. 230).

The method is based on the accounting principles. It is easier to apply compared with the discounted cash flow method or dividend method (Schreiner, 2007, p. 1). The approach is based on the principle that transactions with similar assets (property, business) provides empirical evidence on enterprise value (Anghel, Oancea Negescu, Anica Popa, & Popescu, 2010, p. 229), resulting in equal or approximately equal value ((Maxim, 2010, p. 435). The fundamental principle for this approach is the substitution principle which sustains that the informed buyer would not pay for a good (business) more than the amount that would buy a comparable good with the same utility (Isfanescu, Serban, & Stanoiu, 2003, p. 109).

This paper addresses one of the problems of this method namely seeking to determine the most plausible way of determination of multiple that will provide an enterprise value more and more close to the real one. The purpose of the research is to determine which of the shares listed on the Bucharest Stock Exchange Market (BVB) are underestimated or overrated. In this sense the research is based on two directions, one which presents the main theoretical aspects of the problem and the second one which provides some empirical evidence by implementing the methodology for the companies listed on BSE. The study aims to bring more clarity on the comparative method for valuating companies. In the process of evaluating companies by using analogical method we can identify the following problems: selection of relevant multiples depending on the purpose of valuation; selecting comparable firms, estimating multiple for the peer group (Schreiner, 2007, p. 53).

2. Literature Review regarding Comparative Method

Although this method is widespread, the literature gives a rather inadequate approach and does not explain clearly the working methodology. Compared with discounted cash flow method update cash flow, comparative method is more difficult to deal with. Most of specialists confirm the importance of this approach because of its importance in investment decisions.

Regarding the theoretical approaches, the authors who have studied the comparative method in evaluating companies are: Damodaran (2002), Palepu, Healy & Bernard (2000), Thauvron (2007), Pratt (2008), Screiner (2007).

At the empirical level were prepared numerous studies on this method, most focusing on a limited sample of companies or years, taking into consideration a limited set of multiples.

Regarding the accuracy of estimating multiples for business or shares evaluation important studies belong to Kaplan and Ruback, Gilson, Hotchkiss and Ruback. In their work they argue and demonstrate that the discounted cash flow method and analog method gives only an orientated market value. They conclude that the business value obtain using discounted cash flow method undervalue transaction with an average error of -18.1%. They also demonstrate that analog method has higher accuracy. Another area of research concerns residual value of the company. They calculate it by using EBITDA and EBITDA multiple predicted. The analytical result shows that the values obtained exceed 10% on the real ones. Although their method does not provide a true picture is much closer to it than values obtained through accounting methods (Kaplan & Ruback, 1995). Other authors compare the market value of firms in financial difficulties with the estimated future cash flows and EBITDA forecast. Although the average error has a significant value, these two methods are more relevant than others (Gilson, Hotchkiss, & Ruback, 2000).

For identifying comparable companies, important studies belong to Boatsman & Baskin. They show that the average error is lower when firms are chosen based on similarity of historical revenue growth rate (Boatsman & Baskin, 1981). It is also lower when we choose comparable companies based on the similarity of financial performance indicators rather for those chosen based on membership in an economic sector (Alford, 1992).

 On the topic of the multiples specific for an industry field, Barker and Tasker conclude that in practice we are using PER and price to book value multiples in the financial sector, price to operating cash flow multiples in trade (Schreiner, 2007, p. 19).

Some of the empirical studies addressed another issue, namely that of combining multiples in the analysis. By using both the price to earnings multiples and price to book value multiples in valuation of companies the value obtained is closer to the true image (Cheng & McNamara, 2000). In the same way some authors calculate enterprise value by using a multiple produced by the combination of income and book value (Penman S. H., 1998). An analysis of ten different market multiples leads to the following conclusions: income multiples give a value closer to the true image than those based on sales and cash flow. They also must be calculated on the basis of forecasts (Liu, Nissim, & Thomas, 2002).

3. Fundamental Concepts of Determining the Degree of Underestimation or Overrating the Action Using PER Analysis

In order to develop this subject we believe necessary to establish some theoretical considerations regarding the following terms: PER.

Price earnings ratio- **PER**- is the most widely used multiple (Damodaran, 2002, p. 659). PER was for the first time defined in the early 1930 by Benjamin Graham (Schreiner, 2007, p. 41). The simplicity of its calculation enables its use in defining a value for new shares on the market. PER is used to determine the value of capital to shareholder. Price earnings ratio is the ratio between market price per share and earnings per share (Tchemeni, 1993).

The most important problem regarding PE formula is how we define Earnings per share. Price to earnings ratio can be calculated using three types of denominators:

- current PER, where the earnings per share is the net income of the company for the last fiscal period, divided by number of share outstanding;
- trailing PER, where the earnings per share is the net income of the company for the most recent 12 months divided by number of share outstanding;
- Forward PER, where we use estimated income for the next 12 months instead of net income for the last 12 months (Thauvron, 2007, p. 158).

Regarding the number of shares they can include or not the preferential ones. Income per share calculation can be done in two ways, diluted or undiluted. When it is undiluted (basic earnings per share) the current number of securities is held. When it is diluted issuable securities must be taken into account (stock-options, convertible bonds) and their impact on net income and the number of shares on the market (Thauvron, 2007, p. 159). These evaluation choices result in different PER values and default values for enterprise analysed. Thus in a period of steady growth in revenue, forecast PER is less than trailing PER, which in return is less than the current PER (Damodaran, 2002, p. 7, ch 17).

Generally a PER below 10 is considered low, between 10 and 20 is moderate, and above 20 is considered expensive (Graham & Zweig, 1973, p. 70). Thus, a company with a PER less than 10 is undervalued, between 10 and 20 reflects the fair value and a company with a PER greater than 20 is overrated. In our opinion, such an approach ignores the growth prospects of the company. PER indicator is more than a measure of a company's past performance. It takes into consideration growth prospects.

To determine whether a share is correctly valued by the market it is useful to estimate a theoretical PER. In this case we use discounted dividend model. Using this model we can found the determinants of PER. Thus: PER increases with increasing of the rate of dividend distribution, PER decreases when risk increases, the PER increases if the rate of revenue growth is (Damodaran, 2002, p. 6 ch 18) .

Thus the discriminant analysis of PER is based on the Gordon model. According to it, the value per share is based on expected dividends, the cost of capital to shareholders and expected growth in dividends:

$$P_0 = \frac{DPS_1}{ke - gn}$$

Where: P_0- current market per share; DPS_1- dividends for the year n+1; k_e- minimum rate of return required by shareholders = cost of capital to shareholders; g_n- expected growth rate of dividends.

Gordon model applies to companies with a growth rate lower than the nominal growth of the economy and for those who have a stable dividend policy. Otherwise by applying this model we will have wrong results regarding market price per share especially when we pay less dividends and we are concern with accumulating cash. In this case we will have underappreciated shares (Damodaran, 2002, pg. 5, ch 13).

Based on this assumption and dividing both sides of the equation with income per share (EPS_0) we have:

$$\frac{P_0}{EPS_0} = \frac{DPS_1}{EPS_0 \times (ke - gn)} \qquad PER = \frac{DPS_0 \times (1 + g_1)}{EPS_0 \times (ke - gn)}$$

If we choose to calculate predicted PER, which take into account future revenues, then we have:

$$\frac{P_0}{EPS_1} = PER^1 = \frac{PR}{(ke - gn)} \qquad \text{Where PR= distribution rate of dividends:} \qquad PR = 1 - \frac{g_n}{ROE_n}$$

According to this model, the value of a security is equal to the present value of its future dividends. Initially, they will know relatively high growth (at rate g), then a second time, infinite, where growth will be more moderate (at a rate g_n). Growth in the first period is stronger than in the second stage. Because the risk is different in these two periods, the cost of equity (k_e) will be (Thauvron, 2007, p. 160).

Assuming that the company will go through two periods of growth namely one explicit and one unexplained than, for the period 0, PER will be:

$$PER = \frac{P}{EPS_0} \approx \frac{\left(1 - \frac{g}{ROE_{hg}}\right) \times (1 + g) \times \left(1 - \frac{(1+g)^n}{(1+ke_{hg})^n}\right)}{ke_{hg} - g}$$
$$+ \frac{\left(1 - \frac{g_n}{ROE_{st}}\right) \times (1 + g)^n \times (1 + g_n)}{(k_{e,st} - g_n) \times (1 + k_{e,hg})^n}$$

Where: EPS_0 earnings per share for year 0; P_0 market per share for the year 0; g income growth rate for the first n years; g_n income growth rate for the following years after year n; $k_{e,hg}$ cost of capital for the first n years; $k_{e,st}$ cost of capital after n

years; ROE_{hg} net income/ equity in the first n years; ROE_{st} net income/ equity after n years.

Thus, PER is determined by:

- the dividend distribution rate and ROE as follows: PER increases if dividend distribution rate increases for any given growth rate g, PER is directly proportional to ROE;
- risk through capital cost ke, as follows: PER is reduced if the risk is increased;
- expected growth rate as follows: PER increases if g increases;
- PER is even higher as the distribution of benefits is more important, the risk is low and growth is strong (Thauvron, 2007, p. 159).

Another issue raised by the multiple refers to how it can be used for comparisons between companies, markets and over time. Usually, in practice the current PER is compared with an historical average PER to see if the share is overrated or not. A relevant approach refers to the comparison of current PER with the one forecast based on determinants. Thus, if one considers all the other indicators constant may conclude the following:

- an increase of interest rate leads to an increase of the cost of capital and a decrease in PER;
- an increase in the growth rate g will lead to an increase of PER;
- an increase in ROE will lead to an increase in PER (Damodaran, 2002, pg. 12, ch 18).

Although it is the most used multiple, PER is applied many times wrong because it ignores its link with financial indicators (Thauvron, 2007, p. 157). Facing the current PER with the theoretical one for a company is particularly useful in quantitative portfolio management because it allows automatic identification of companies that appear undervalued (Thauvron, 2007, p. 161).

To evaluate a company we have to multiply the Net income average PER for the peer group: $V_k = Net\ income_{company\ i} \times PER_{peer\ group}$. Sometimes it is chosen to calculate the relative PER which is the ratio between PER and market PER (Fernandez, 2002, p. 29): $PER_{relative} = \frac{PER_{company}}{PER_{market}}$.

This method allows taking into account the differences that may exist between different markets. Therefore, the method has no interest unless the peer group is composed of listed companies in different markets (Thauvron, 2007, p. 163).

To evaluate a company based on relative PER, it shall be multiplied through the PER of the market where the company is listed and net income of the firm:
Value to shareholders $= PER_{relative} \times PER_{market} \times Net\ income_{c,company}$

PER relative is used especially in two situations: when the national peer group is not relevant; to give, over a long period of time, landmarks on the historic value of a company or sector in relation to market (Thauvron, 2007, p. 164). To conclude that a firm is undervalued only because it's multiple is lower than the sector average can be a hasty attitude. To remove any doubt we proceed by entering into the equation a growth rate.

If: PER_1 is the company multiple, PER_m is the multiple for the peer group, PEG_m is the multiple for the peer group, g= growth rate of company α we will have a PER_2 as following: $PER2 = PEGn \times g,$

Where: PER_2= PER calculated by using PEG and g; PEG_m= average price earnings growth rate; g= income growth rate.

In this case we can found the following situations:

- $PER_2 < PER_1 < PER_m$ The share is overvalued

- $PER_m < PER_1 < PER_2$ The share is undervalued.

4. Empirical Study

The research uses constructivist methodology, based on analysing individual behaviour of firms as a basis in developing theoretical system.

The form of scientific research is one applied. It makes the transition from practice to theory, being in the same time an inductive approach. We also have an explanatory research, which proposes to describe causal relationships to verify statements previously advanced and to facilitate prediction.

Research approach is from a quantitative point of view, with a positivist orientation. In the research we use statistics and econometrics methodology. The relationship between researcher and researched is neutral. The selection of the companies investigates is achieved through statistical sampling for short periods. Methods and techniques used are quantitative analysis, statistical, ARIMA model, correlation and regression

For data collection we process the information from various underlying systematic presentation documents, statistics, accounts and financial trade. All that information is from: Bucharest Stock Exchange market, National Agency of Fiscal Administration and the National Institute of Statistics.

The objectives that we want to achieve through the following applications are:

O1   Evaluation of shares listed on Bucharest Stock Exchange through multiples method

The research questions are:

Q1 Which calculation method is more efficient for rate g?

Q2 Which PER provides an accurate assessment of the value of shares?

Q3 To what extent the income growth rate is influenced by cost of capital and dividend distribution rate?

Q4 Which companies listed on the Bucharest Stock Exchange in the first category have over or understated shares?

Q5 Which are the relevant methods for analysing of shares?

The assumptions related to research questions are:

I1 G rate calculation using the information listed in the balance sheet will lead to an underestimate of the share.

I2 Current PER unlike forward PER leads to an overvaluation of the share.

I3 PER increases if the dividend distribution rate grows for any given growth rate, PER is directly related to ROE, PER decreases if the risk is increasing, PER grows if g is increasing.

I4 There are significant differences between values obtain because of the driver taking into consideration.

I5 Composed average and regression analysis give the most plausible method for share analysis.

a. Preliminary Stage for Analysis

In order to realise this research and testing the hypotheses above we have performed a series of tests to determine all the necessary indicators. A first analysis is to determine the growth rate of net income. In achieving this goal we use time series analysis. The parameters of the model that we construct explain past values of variables, predict fluctuations and define the impact of certain events on normal behaviour. The model used is ARIMA (Autoregressive Integrated Moving Average) known as the "Box-Jenkins Model" performed by using the SPSS 19. Using this method we obtain the following:

Table 1. Forecasted growth rate g for the companies listed in the first category

Abv	Net income 2011	Forecast net income 2012	Forecast net income 2013	G using past information	Forecast g
ALR	228309982	217609359	213632766	39.00%	-3.26%
ATB	20298909	17753084	17304270	16.60%	-7.53%
AZO	365196441	336368302	310819116	202.93%	-7.74%
BCC	-31989275	-22551320	-20164951	-154.08%	20.04%
BIO	14220788	7232635	9430298	-3.66%	-9.38%

BRD	465265368	555457159	600794704	15.89%	13.77%
BRK	-15599615	5041184	-949995	-23.35%	6.74%
COFI	-51905451	53053821	-51904125	-154.55%	2.19%
ELMA	15075281	14145920	13310943	69.15%	-6.03%
IMP	-22261046	-19982189	-17948190	-15445.41%	10.21%
OIL	545419	3324081	3221562	40.81%	253.19%
OLT	-278342623	-248140339	-223437618	-169.87%	10.40%
PREH	917740	1972559	2589315	25.91%	73.10%
RPH	10687756	10687745	10687734	98.22%	0.00%
SIF1	63006519	62150330	61608024	13.25%	-1.12%
SIF2	192922595	192921753	192920911	25.57%	0.00%
SIF3	207727564	141220356	108157314	122.07%	-27.71%
SIF4	65336350	65086772	64839446	8.51%	-0.38%
SIF5	83442670	85604623	85782329	30.15%	1.40%
SNP	3685607226	2497578684	1924846431	-106.82%	-27.58%
SOCP	7092137	4834381	4813033	27.89%	-16.14%
TBM	-19411417	-10887077	-5960379	-51.33%	44.58%
TEL	90913316	69498540	67706861	191.60%	-13.07%
TGN	379571465	338301520	312655883	15.57%	-9.23%
TLV	131870976	170116179	176851626	28.55%	16.48%

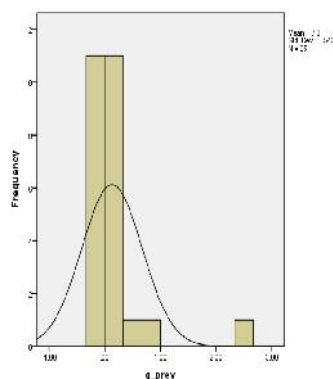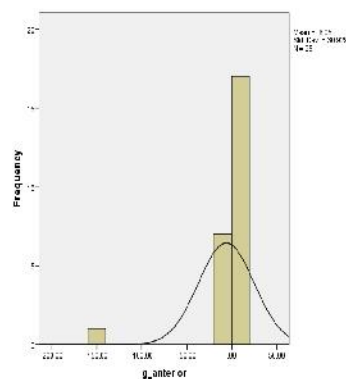**Figure 1. Distribution for forecast g**   **Figure 2. Distribution for historical g**

Such analysis is used to determine the rate g to be used in the regression equation and also answer to a question of this empirical research, namely: Q1: Which calculation method is more efficient for rate g? With the assumption: I: G rate calculation using the information listed in the balance sheet will lead to an underestimate of the share.

As can be seen in the histograms above most predicted g values are found around 0, being a normal distribution, whereas for historical g we cannot speak of a normal distribution having outliers and concentration of positive values. Previous growth rate is calculated based on the arithmetic average of growth rates for each year; this is why fluctuations attach great importance to the result.

Expected growth rate can be obtained also through a regression analysis of its determinants. However computing difficulty impedes such an analysis. Thus we recommend using the calculation of forecast net income through ARIMA model.

b. Distribution of PER in the First Category

A critical step in using the PER for stock market analysis is represented by how the multiple is distributed within the market sector. In this section we analyse the distribution of PER on BVB, first category. We analyse both current and forward PER, the latter calculated using the results obtain on a previous stage.

Table 2. Current and trailing PER for the companies listed on BVB, first category

Class	Company	Net income 2011	Forecast net income 2012	Market price per share 2011	Number of shares 2011	Current PER	Forward PER
C	ALR	228309982	217609359	2.2990	713779135	7.19	7.5409
C	ATB	20298909	17753084	0.3690	568007100	10.33	11.8061
C	AZO	365196441	336368302	2.1860	526032633	3.15	3.4186
K	BCC	-31989275	-22551320	0.0508	3146290494		
C	BIO	14220788	7232635	0.1707	1094861499	13.14	25.8402
K	BRD	465265368	555457159	9.7050	696901518	14.54	12.1763
K	BRK	-15599615	5041184	0.1039	338681867		6.9803
F	COFI	-51905451	53053821	0.0097	630041255		0.1152
C	ELMA	15075281	14145920	0.1687	676038704		8.0622
F	IMP	-22261046	-19982189	0.1567	197866574		
H	OIL	545419	3324081	0.1351	582430253	144.27	23.6716
C	OLT	-278342623	-248140339	0.8330	343211383		
C	PREH	917740	1972559	1.3510	48533419	71.45	33.2404
G	RPH	10687756	10687745	0.6695	291005550	18.23	18.2291
K	SIF1	63006519	62150330	0.8645	548849268	7.53	7.6344
K	SIF2	192922595	192921753	1.0310	519089588	2.77	2.7741
K	SIF3	207727564	141220356	0.4542	1092143332	2.39	3.5126
K	SIF4	65336350	65086772	0.7990	807036515	9.87	9.9071
K	SIF5	83442670	85604623	1.0440	580165714	7.26	7.0755
K	SNP	3685607226	2497578684	0.3534	56644108335	5.43	8.0150
H	SOCP	7092137	4834381	0.2679	343425744	12.97	19.0311
C	TBM	-19411417	-10887077	0.0358	369442475		
D	TEL	90913316	69498540	12.4300	73303142	10.02	13.1105
H	TGN	379571465	338301520	191.3500	11773844	5.94	6.6595
K	TLV	131870976	170116179	0.9835	1773658066	13.23	10.2541

Based on data in the table above, the following figure shows the distribution of PER rates for companies listed on the Bucharest Stock Exchange in May 2012.
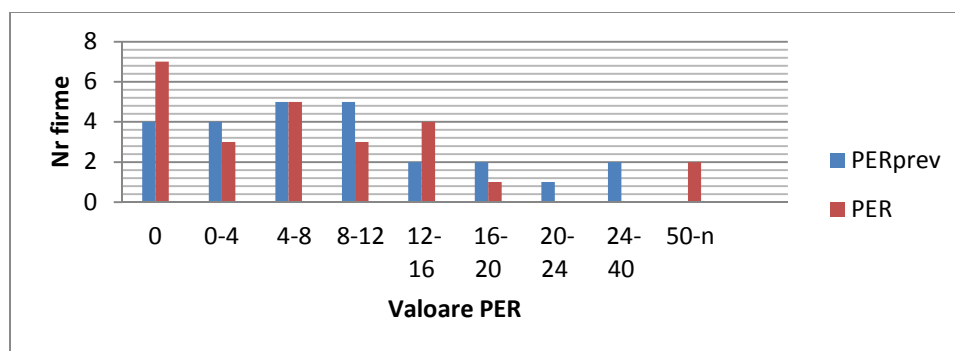
Figure 3. Current(PER) and forward PER(PERprev)

The table below show the main indicators of descriptive statistics for current and forward PER namely: arithmetic mean, median, mode, standard deviation, minimum, maximum.

Table 3. Descriptive statistics for current and trailing PER

	PER current	PER forward
Mean	20	11,40
Median	9,87	8,06
Mode	144.27	23.67
Minimum	2.39	2.77
Maximum	144.27	33.24

A comparative analysis leads to the conclusion that forward PER is an indicator that reflects the true image unlike current PER. The arithmetic mean and median for forward PER are significantly lower than those for current PER, reflecting an overvaluation of companies using current PER. We also observed significant differences between the minimum and maximum for current PER that leads to a distribution that is not normal, unlike forward PER. Mean, median and mode are almost equal to forward PER, meanwhile for current PER there are major differences. This analysis provides answer to the following question:

Q: Which PER provides an accurate assessment of the value of shares??

I: Current PER unlike forward PER leads to an overvaluation of the share.

c. PER Determinants

We can approach this subject of PER determinants by using regression analysis with SPSS 17 with the following variables:

Table 4. Regression analysis variables

Field	Abs	Net income 2011	g	ke	PR	Current PER
C	ALR	228309982	-0.03	0.15	0.99	7.19
C	ATB	20298909	-0.08	0.07	0.43	10.33
C	AZO	365196441	-0.08	0.33	0.00	3.15
K	BCC	-31989275	0.20	-0.10	0.00	
C	BIO	14220788	-0.09	0.09	0.77	13.14
K	BRD	465265368	0.14	0.67	0.25	14.54
K	BRK	-15599615	0.07	-0.21	0.00	
F	COFI	-51905451	0.02	-0.85	0.00	
C	ELMA	15075281	-0.06	0.06	0.18	
F	IMP	-22261046	0.10	-0.07	0.00	
H	OIL	545419	2.53	0.00	3.63	144.27
C	OLT	-278342623	0.10	0.34	0.00	
C	PREH	917740	0.73	0.00	0.00	71.45
G	RPH	10687756	0.00	0.12	0.00	18.23
K	SIF1	63006519	-0.01	0.10	0.87	7.53
K	SIF2	192922595	0.00	0.34	0.59	2.77
K	SIF3	207727564	-0.28	0.27	0.90	2.39
K	SIF4	65336350	0.00	0.06	1.00	9.87
K	SIF5	83442670	0.01	0.13	0.90	7.26
K	SNP	3685607226	-0.28	0.20	0.48	5.43
H	SOCP	7092137	-0.16	0.07	0.00	12.97
C	TBM	-19411417	0.45	-0.29	0.00	
D	TEL	90913316	-0.13	0.04	0.00	10.02
H	TGN	379571465	-0.09	0.12	0.92	5.94
K	TLV	131870976	0.16	0.07	0.00	13.23

Where: k_e is the cost of equity calculated by dividing net income to equity; PR= dividend distribution rate calculated by dividing dividend per share to net income per share.

By using this data, de regression equation is:

$$PER=22,421+63,748g-22149k_e-10,817PR$$

This part answer to the following question:

Q3   To what extent the income growth rate is influenced by cost of capital and dividend distribution rate?

The assumptions related to research questions is:

I3   PER increases if the dividend distribution rate grows for any given growth rate, PER is directly related to ROE, PER decreases if the risk is increasing, PER grows if g is increasing.

By analysing the results we can observe that two of the assumptions are demonstrated: PER grows if g is increasing, PER decreases if the risk is. Regarding the first assumption, the research does not sustain it. This is a problem that will be investigated in future research.

d. Results and Future Research

Although PER can be used in many types of analysis we choose to evaluate the shares listed on BVB, first category.

A first approach can analysis the underestimation or overrating of share by comparing the current PER with market average. By using the descriptive statistics for current PER we have the following situations:

Table 5 Comparative analysis using different averages

Abv.	Current PER	Arithmetical	Median	Harmonic	compound
ALR	7.19	underestimated	underestimated	overrated	underestimated
ATB	10.33	underestimated	overrated	overrated	underestimated
AZO	3.15	underestimated	underestimated	underestimated	underestimated
BIO	13.14	underestimated	overrated	overrated	overrated
BRD	14.54	underestimated	overrated	overrated	overrated
OIL	144.27	overrated	overrated	overrated	overrated
PREH	71.45	overrated	overrated	overrated	overrated
RPH	18.23	underestimated	overrated	overrated	overrated
SIF1	7.53	underestimated	underestimated	overrated	underestimated
SIF2	2.77	underestimated	underestimated	underestimated	underestimated
SIF3	2.39	underestimated	underestimated	underestimated	underestimated
SIF4	9.87	underestimated		overrated	underestimated
SIF5	7.26	underestimated	underestimated	overrated	underestimated
SNP	5.43	underestimated	underestimated	underestimated	underestimated
SOCP	12.97	underestimated	overrated	overrated	overrated
TEL	10.02	underestimated	overrated	overrated	underestimated
TGN	5.94	underestimated	underestimated	underestimated	underestimated
TLV	13.23	underestimated	overrated	overrated	overrated

A second approach uses a comparison of forecast PER calculated through regression equation and current PER:

Table 6. Comparative analysis using regression

Categories	Abbreviate	Current PER	Forecast PER	State
C	ALR	7.19	6.39	overrated
C	ATB	10.33	11.45	underestimated
C	AZO	3.15	10.14	underestimated
C	BIO	13.14	6.07	overrated
K	BRD	14.54	13.66	overrated
H	OIL	144.27	144.51	underestimated

C	PREH	71.45	68.92	overrated
G	RPH	18.23	19.83	underestimated
K	SIF1	7.53	10.12	underestimated
K	SIF2	2.77	8.47	underestimated
K	SIF4	9.87	10.08	underestimated
K	SIF5	7.26	10.70	underestimated
H	SOCP	12.97	10.56	overrated
D	TEL	10.02	13.28	underestimated
H	TGN	5.94	3.98	underestimated
K	TLV	13.23	31.28	underestimated

We can observe a strong correlation between compound average and forecast PER.

Table 7. Synthesis of comparison methods using PER

	Arithmetical	Median	Harmonica	Compound	Forecast PER
Number of companies with shares underestimated	16	8	5	11	11
Number of companies with shares overrated	2	10	13	7	7

This part of the research gives answers to the following questions:

Q4   Which companies listed on the Bucharest Stock Exchange in the first category have over or understated shares?

Q5   Which are the relevant methods for analysing of shares?

The assumptions related to research questions are:

I4   There are significant differences between values obtain because of the driver taking into consideration.

I5   Composed average and regression analysis give the most plausible method for share analysis.

Future research will focus on other multiples such as PEG. On the other hand in a future article we will present the implications of using Economic Value Added in analysing share's value.

5. Acknowledgements

6. Bibliography

Alford, A. W. (1992). The Effect of the Set of Comparable Firms on the Accuracz of the Price-Earnings Valuation Method. *Journal of Accounting Research 30*. pp. 94-108.

Anghel, I., Oancea Negescu, M., Anica Popa, A., & Popescu, A. M. (2010). *Evaluarea intreprinderii/ Company's Assessment.* Bucuresti: Editura Economica.

Bernard, Palepu, & Healy. (2000). *Business Analysis & Valuation Using Financial Statements-Test and Cases.* OH-Canada: Thomson: South-Western.

Boatsman, J., & Baskin, E. (1981). Asset Valuation with Incomplete Markets. *Accounting Review*. pp. 38-53.

Cheng, C., & McNamara, R. (2000). The Valuation Accuracy of the Price Earnings and Price Book Benchmark Valuation Methods. *Review of Quantitative Finance and Accounting 15*. pp. 349-370.

Damodaran, A. (2002). *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* (ed. 2nd). New York: John Wiley and Sons.

Drake, P. P. *Valuation using multiples. A reading.* Retrieved from January 15, 2011, from Florida Atlantic University: http://wise.fau.edu/~ppeter/fin4422/multiples.pdf

Fernandez, P. (2002). *Valuation methods and shareholder value creation.* USA: Elsevier Science.

Gilson, S. C., Hotchkiss, E. S., & Ruback, R. S. (2000, Sping). Valuation of Bankrupt Firms. *The Review of Financial Studies, 12*(1), 43-74.

Graham, B., & Zweig, J. (1973). *The Intelligent Investor: A Book of Practical Counsel* (ed. 4th). USA: Harper Business Essentials.

Iosif, G. N., & Banacu, C. S. (2006). *Analiza si evaluarea afacerii/ Business Analysis and Assessment.* Bucuresti: Tribuna economica.

Isfanescu, A., Serban, C., & Stanoiu, A. C. (2003). *Evaluarea intreprinderilor/ Companies' Assessment.* Bucuresti: Editura Universitara.

IVSC. (iunie 2010). *Proposed New International Valuation Standards.* IVSC.

Kaplan, S. N., & Ruback, R. S. (1995, September). The Valuation of Cash Flow Forecasts: An Empirical Analysis. (JSTOR, Ed.) *The Valuation of Cash Flow Forecasts: An Empirical Analysis*. *50*. pp. 1059-1093.

Liu, J., Nissim, D., & Thomas, J. (2002). International equity valuation using multiples. *Columbia University*. pp. 1 - 40.

Maxim, E. (2004). *Diagnosticarea si evaluarea organizatiilor/ Organisations Diagnosis and Assessment.* Iasi: Sedcom Libris.

Maxim, E. (2010). *Diagnosticarea si evaluarea organizatiilor/ Organisations Diagnosis and Assessment.* Iasi: Sedcom Libris.

Penman, S. (2006). Handling Valuation Models. *Journal of Applied Corporate Finance*(18). pp. 48-55.

Penman, S. H. (1998). Combining Earnings and Book Value in Equity Valuation. (C. A. Association, Ed.) *Contemporary Accounting Research*. pp. 291-324.

Pereiro, L. (2002). *Valuing Companies in Emerging Markets. A Practical Approach.* Hoboken, N.J., SUA: Wiley.

Pratt, S. P., & Niculita, A. (2008). *Valuing a Business- The Analysis and Appraisal of Closely Held Companies* (ed. 5th). New York, USA: The McGraw-Hill Companies.

Ross, A., Westerfield, R., & Jaffe, j. (2002). *Corporate Finance* (ed. 6th). New York: McGraw-Hill.

Schreiner, A. (2007). *Equity Valuation Using Multiples: An Empirical Investigation.* Wiesbaden, Germany: Deutscher Universitats Verlag.

Stan, S., & Anghel, I. (2007). *Evaluarea intreprinderii/ Company Assessment.* București: IROVAL.

Tabara, N., & Vasiliu, A. (2011). The Importance of Price Earnings Ratio in Equity Valuation on Stock Exchange Market. *Acta Universitatis Danubius. Oeconomica*, in editing.

Tchemeni, E. (1993). *L'Evaluation des Entreprises/ Companies Assessment.* Paris: Economica.

Thauvron, A. (2007). *Evaluation d'entreprise/ Company Assessment.* (ed. 2nd). Paris: Economica.