INFLUENCING FACTORS OF VALUATION MULTIPLES OF COMPANIES

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ABSTRACT: *The main objective of this study is to determine the factors that influence the valuation multiples used in the market approach in valuing companies. The analysis takes into account both factors related to the company and the country or stock market on which the company stocks are traded.*
The database for this research was represented by a total of 1,853 companies listed on various stock markets and the source of information was represented by Infinancials database. They were selected based on criteria related to the availability of information and business sectors to which they belong. Such data base includes 15 specific industry sectors, each sector is divided into two data sets according to the level of development of the countries of origin of the companies. Thus the 1,853 companies in the database were divided into companies from developed countries and companies from developing countries.
The independent variables considered in this analysis are: company size (quantified by sales), the inflation rate in the country of origin of the company, country risk for the company's home country and three financial ratios considered representative by the investors in the capital market namely: EBITDA ratio, equity/assets ratio and liquidity quick ratio.

Keywords: valuation multiples, company value, factors of influence, market approach, valuation.

JEL Codes: G11, G12

Introduction

The analysis of the valuation multiples of listed companies used in the market approach was a concern for many researchers, especially in the field of evaluation and capital market investments. Therefore, to facilitate the work of evaluators were created numerous databases that contain information on the value of companies from different economy sectors. Such databases have been built by researchers in the field of evaluation such as Aswath Damodaran, Shannon Pratt, etc. Such databases are made available in developed countries by some capital markets or brokerage companies that provides access to these databases to their clients or other interested entities, either free or subscription based.

Most studies that have focused on the market approach in valuing companies especially focused to quantify discounts or premiums for control packages or lack of liquidity, these issues representing a sensitive point in applying the market approach for company's valuation. But there were also researchers who analyzed multiple factors that influence the value of the company. Thus, Bill Quish (2010), mergers and acquisitions consultant, underlines two types of factors that influence the valuation multiples of companies: factors related to the company and external factors. Among company-specific factors, the author outlines the influence of the following factors, among others: indicators of results / profitability, possession of niche products, strong market entry barriers for other companies, undervalued assets, absence / existence of unions, modern inputs, etc. Regarding the external factors influencing the value multiples, the most important in the author's

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opinion are the sector of activity in which the company operates (up or down), the transaction taxes, interest rates, economic status, etc.

A great deal of the studies in this field started from the variables considered "fundamental" to the value of a company, namely the book value of the stocks and the net profit. These two variables were analyzed by Feltham and Ohlson (1995) that reveal link existed between those and the company value. Also, Alford (1992) studied the effect of choosing comparable companies based on size and earnings growth. A number of 4 variables were used by Beatty, Riffe and Thompson (1999) to estimate the value drivers. Those four variables were: earnings, book value, dividends and total assets.

Some studies have examined the relationship between expected profits and company value, showing that these forecasted cash flows have an higher predictive power than historical cash flows. Therefore Liu and Thomas (2000) showed that forecasted profit and interest rates outlines better the market value of equity than historical profits registration. More recent studies also reveal that company's multiples estimated by using forecasted revenues were more accurate than those estimated based on historical results.

However, considering the global economic crisis that has installed since 2007, estimating the value of a company based on the valuation multiples that use return ratios (EBITDA, EBIT, Profit Margin, Net Profit) has become very difficult if we keep in mind that most of the companies have registered in this period negative results.

Therefore Deng and Easton (2009) analyzed the value multiples of companies with negative results, confirming some previous studies that showed that when the results are negative multiples of sales or the book values of stock are relevant to the company value.

Taking into account the literature in this research area we consider the main contribution of this research consists in the simultaneous analysis of influential factors both endogenous and exogenous of the valuation multiples, approach that from our best knowledgehasn't been used before. Another improvement for the research area consists in analyzing in parallel of several economic fields and companies as well asdividingthe analyzed companies according to the economic development level of the home country of the companies.

Based on this literature, we formulate the following research hypothesis:

Valuation multiples used in the market approach in company valuation are influenced by various categories of factors related to both the analyzed companies and their exogenous factors that are more related to the economy in which those companies operate. Such factors exert influence differentiated according to economy sectors that these companies belong to and the level of development of the countries of origin for those companies, being able to speak thus of different influences of the same factors on companies in developed countries compared to companies from developing countries and the different influences of the same factors in different sectors of the same economy.

Research methodology

The main objective of this research consists in the analysis and quantification of the influencing factors of the valuation multiples used in the market aproach of company valuation.

The first stage of the research consisted in the database creation.

The completion of this study involved in the first stage of database creation,the gathering of information on various capital markets on the valuation multiples of companies listed on these markets. It was used as a source of information Infinancials database, from which they were retrived information about the financial performance of companies and the value of equity and invested capital for these companies.

For selecting the companies that will be the subject of the case study they were taken into account several criteria that were considered cumulatively, the selected companies must satisfy these criteria simultaneously.

These selection criteria are:
  - ➢ to be representative from quantitative point of view
  - ➢ subsequently allowing the split of companies from every sector into two distinct groups depending on the country of origin of the respective companies
  - ➢ provide sufficient information for the analysis (financial, on the size of the companies, on the country of origin of the company, etc.)
  - ➢ ensure unity and comparability of results from different parts of the database

After applying these criteria resulted for analysis a total of 1,853 companies in Europe.

Taking into account the hypothesis of the research, namely the analysis to be realized separately for companies in developed countries and companies in developing countries, the 1,853 companies included in the database were divided into two categories namely: companies from developed countries and companies from developing countries. Developing countries are: Romania, Bulgaria, Croatia, Serbia, Russia, Ukraine, Latvia, Estonia, Lithuania, Macedonia, Russia, Ukraine, Hungary, Poland, Slovenia, Slovakia, Bosnia, Montenegro. Other European countries were considered developed countries.

The other research hypothesis that implies that analysis to be performed separately for each sector of the economy, divided the database into 15 different economy sectors.

Because in certain cases the number of companies in a particular sector did not fulfill quantitative requirements in terms of data processing, we merged two or more sectors (according to existing classification in Infinancials database) that are considered similar regarding the investors perception of the factors influencing the companies value.Synthetic the database structure is presented in the table below:

Table no. 1.

The database structure

No	Clasification	Sector content	No of companies	Developed countries	Developing contries
1	Sector 1	Oil equipment & services+Pipelines+Integrated Oil&Gas	102	68	34
2	Sector 2	Farming & fishing+Food products	186	113	73
3	Sector 3	Specialty+Apparel+Broadline+Home Improvement retailers + Special Consumer Services	158	127	31
4	Sector 4	Heavy construction	132	75	57
5	Sector 5	Aerospace+transportation services+marine transportation	140	108	32
6	Sector 6	Building materials & fixtures	132	97	35
7	Sector 7	Auto parts+Automobiles+Tires+Comercial vehicle&trucks	90	63	27
8	Sector 8	Brewers + Distillers&Vintners+Soft drinks	77	56	21
9	Sector 9	Electronic equipment+Electrical components&equipment	190	164	26
10	Sector 10	Industrial machinery	207	168	39
11	Sector 11	Paper + Forestry+Container&packaging+Furnishing	95	66	29
12	Sector 12	Speciality chemicals+Comodity chemicals	102	71	31
13	Sector 13	Pharmaceuticals+Biotehnology+Medical Suplies	94	64	30
14	Sector 14	Iron & steel	64	33	31
15	Sector 15	Utilities	84	36	48
		Total	**1,853**	**1,309**	**544**

Source: www.infinancials.com

The next stage in building the database after selection of the companies to be included in the database was to define the types of information necessary for the study and gathering of this information in order to complete the database.This information may be split according to the object defined by them in these 3 categories:

a. Information regarding the size of the companies
b. Information on the country of origin of listed companies
c. Information regarding company's financial situation

a.   According to the theory, in case of the valuation of companies to quantify company size and comparable companies used in the evaluation process can be used several criteria. They are subdivided according to the type of capital that it is considered in two categories, namely:
Criteria for measuring the size of equity
i. market value of ordinary stocks
ii. book value of ordinary stock
iii. last 5 years average net profit (without taking into account extraordinary income and expenses)
Criteria for measuring the size of the bussines (company or invested capital)
iv. market value of invested capital
v. asset value
vi. last 5 years average EBITDA
vii. sales
viii. number of employees
In the present study, given the availability of informations were taken into account two criteria to estimate the size of the companies that compile the database, namely: sales and market capitalization (market value of ordinary shares).Since the purpose of the study is to assess the factors that influence valuation multiples of companies and these multiples are calculated either in relation to equity or in relation to the invested capital we had two possibilities, namely:
- use as a criteria for company size the market value of ordinary stocks (market capitalization) to estimate the influence on the multiple of invested capital value calculated by reference to the sales
- using the criteria for company size the market value of invested capital (enterprise value - EV) to estimate the influence on valuation multiple of equity value calculated by reference to the sales.
Considering that the enterprise value includes the lent capital, which can vary greatly from one company to another and especially between companies in developed and developing countries, to eliminate any shortcomings or negative influences of the capital structure on the analysis results, we chose to quantify size of the companies in the database using their sales from the date of analysis.Using sales as company size element quantification was imposed by the multiple of the value used as the dependent variable, as we show in the next paragraph.

b. Using information regarding the home country of the companies from the database had the purpose to catch the risk asociated with an investment in the equity of companies that operates in diffrent contries. This information are not related to the company's financial situation or its size, and can be considered external information (or exogenous) of companies that do not depend on the size of company and theirs financials results but the economy in which they operate. For this study, we considered relevant for this purpose two external factors (macroeconomic) related to the country of origin of the company, namely:
➢ -country risk
➢ -inflation

Through country risk have tried capturing the impact of the national economic situation at a certain time on the capital market investments in that country and therefore on the value of listed companies and the valuation multiples.
Information source for country risk was Professor Aswath Damodaran database.

Total risk situation for european countries as presented in the database in the year 2010 is:

Table no. 2.

The country risk for European countries in 2010.

Country	Region	Long-Term Rating	Total Risk Premium
Albania	Eastern Europe & Russia	B1	11.00%
Armenia	Eastern Europe & Russia	Ba2	9.13%
Austria [1]	Western Europe	Aaa	5.00%
Azerbaijan	Eastern Europe & Russia	Ba1	8.60%
Belarus	Eastern Europe & Russia	B1	11.00%
Belgium [1]	Western Europe	Aa1	5.38%
Bosnia and Herzegovina	Eastern Europe & Russia	B2	12.50%
Bulgaria	Eastern Europe & Russia	Baa3	8.00%
Croatia	Eastern Europe & Russia	Baa3	8.00%
Cyprus [1]	Western Europe	Aa3	6.05%
Czech Republic	Eastern Europe & Russia	A1	6.28%
Denmark	Western Europe	Aaa	5.00%
Estonia	Eastern Europe & Russia	A1	6.28%
Finland [1]	Western Europe	Aaa	5.00%
France [1]	Western Europe	Aaa	5.00%
Georgia	Western Europe	Ba3	9.88%
Germany [1]	Western Europe	Aaa	5.00%
Greece [1]	Western Europe	Ba1	8.60%
Hungary	Eastern Europe & Russia	Baa3	8.00%
Iceland	Western Europe	Baa3	8.00%
Ireland [1]	Western Europe	Baa1	7.25%
Italy [1]	Western Europe	Aa2	5.75%
Kazakhstan	Eastern Europe & Russia	Baa2	7.63%
Latvia	Eastern Europe & Russia	Baa3	8.00%
Lithuania	Eastern Europe & Russia	Baa1	7.25%
Malta [1]	Western Europe	A1	6.28%
Moldova	Eastern Europe & Russia	B3	14.00%
Montenegro	Eastern Europe & Russia	Ba3	9.88%
Netherlands [1]	Western Europe	Aaa	5.00%
Norway	Western Europe	Aaa	5.00%
Poland	Eastern Europe & Russia	A2	6.50%
Portugal [1]	Western Europe	A1	6.28%
Romania	Eastern Europe & Russia	Baa3	8.00%
Russia	Eastern Europe & Russia	Baa1	7.25%
Slovakia	Eastern Europe & Russia	A1	6.28%
Slovenia [1]	Eastern Europe & Russia	Aa2	5.75%
Spain [1]	Western Europe	Aa1	5.38%
Sweden	Western Europe	Aaa	5.00%
Switzerland	Western Europe	Aaa	5.00%
Ukraine	Eastern Europe & Russia	B2	12.50%
United Kingdom	Western Europe	Aaa	5.00%

Source: http://pages.stern.nyu.edu/~adamodar/
Note: The risk for Serbia was equated to that of Croatia and in the case of Macedonia with Albania due to lack of information for these two countries

Regarding inflation, we tried to catch the influence that volatility of nominal income earned by an investor as a result of the inflation evolution in a specific country has on the level of the investment and implicitly the valuation multiples of companies operating in the country. On 31 December 2010, the inflation rate calculated for European countries by refrence to December of the previous year was as follows:

Table no.3.

Inflation in European countries in 2010

Country	Inflation 2010/2009	Country	Inflation 2010/2009
Belgium	2.33	Poland	2.66
Bulgaria	3.03	Portugal	1.39
Czech Republic	1.16	Romania	6.07
Denmark	2.21	Slovenia	2.09
Germany	1.12	Slovakia	0.70
Estonia	2.74	Finland	1.68
Ireland	-1.59	Sweden	1.91
Greece	4.70	United Kingdom	3.34
Spain	2.04	Iceland	7.46
France	1.74	Norway	2.38
Italy	1.65	Switzerland	0.68
Cyprus	2.56	Croatia	1.09
Latvia	-1.22	Turkey	8.58
Lithuania	1.19	Rusia	8.77
Luxembourg	2.80	Bosnia	2.12
Hungary	4.72	Macedonia	1.6
Malta	2.04	Montenegro	0.70
Netherlands	0.93	Serbia	6.17
Austria	1.69	Ukraine	9.37

Source: http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/

c. Information on the financial status of companies were intended to identify the influence that the financial statements of companies exert on companies' value (from the perspective of investors in the stocks of that company) and therefore the valuation multiples of those companies. There are many indicators that can be calculated based on the Company's financial statements, according to Manate (2002).

They can be divided into three main categories, namely:
- Capital structureratios
- Assets utilization ratios
- Income ratios (return and profitability)

At these categories are added and balance ratios which in our opinion are taken into account in the asset utilization ratios, there for it is not necessary in this study to estimate this ratios.Taking into account the purpose of the analysis and the impossibility of considering a large number of variables for each of the three main categories mentioned above was used a relevant ratio, namely:
- as an indicator of the capital structure was considered relevant the equity/assets ratio
- for asset utilization we considered the quick ratio as representative
- the income ratio that we cinsidered most relevant was the EBITDA margin

The last step in building the database consisted in selecting the valuation multiple that will be used as the dependent variable.We selected as the dependent variable the ratio between the enterprise value (EV) and sales (CA) to avoid using at the numerator and the denominator an estimator that includes equity value.

After completing these steps in building the database so that it can be used in the proposed study theprocessing of this database was considered necessary. Processing the database took into account bringing the independent variables in a uniform format.This objective was achieved by

transforming all the criteria considered (except for company size criteria) in percentage by dividing by 100.

For the company size it has been obtaina normalization of datas to facilitate the incorporation of these variable in the analysis using the following formula:

$$I_t^{normalized} = \frac{I - I_{min}}{I_{max} - I_{min}} \times 100 \quad (1)$$

Data processing methodology

Database processing was performed by using an empirical model of information processing. Specifically, working methodology consisted in estimating the following regression model.

$$m_{i,j} = \alpha_1 CA_i + \alpha_2 \pi_j + \alpha_3 R_j + \alpha_4 EBITDA_i + \alpha_5 af_i + \alpha_6 qr_i + \varepsilon_{i,j} \quad (2)$$

specific multiplier represents the company i and country j

CA_i represents the sales of the company i

π_j inflation is related to country j

R_j represents specific country risk country j

$EBITDA_i$ represents EBITDA ratio which is specific to the company i

af_i is equity/assets ratio of company i

qr_i represent quick ratio of company i

ε estimation error which is associated to the regression model

Another problem in estimating the regression model can be represented by the statistical characteristics of the estimation errors $\varepsilon_{i,j}$ that may have different types of distributions and an autoregressive pattern leading to obtaining non-robust estimators of coefficients involved. A possible solution is the application of the correction methodology for estimating *Generalized Linear Model (GLM)*. This methodology allows flexible construction methods, testing and estimation model and an appropriate treatment of errors. Guidelines for the application of this methodology are those of the correct specification of the functions of the relationship between average and linear predictor (link function) and, respectively, to specify the version and distribution hypothesis respecting independent data observation.

The results of applying the methodology described above are detailed in the following two tables:

Table no. 4.

Factors that influence the valuation multiples for developed countries

Sector	Sales	Inflation	Risk	EBITDA ratio	Equity/ Assets	Quick ratio
Sector 1	-7.78 (61.63)	184.56 (1098.65)	-233.05 (624.92)	-36.99 (50.28)	-1.83 (63.60)	29.20* (15.76)
Sector 2	-1.42 (1.89)	6.97 (19.62)	-1.47 (11.92)	1.24*** (0.27)	2.45** (1.03)	0.18 (0.24)
Sector 3	-0.01 (0.55)	-1.53 (7.71)	4.70 (4.94)	3.55*** (0.72)	0.30 (0.38)	0.32*** (0.11)
Sector 4	-0.08 (0.61)	-1.48 (12.68)	24.54*** (7.55)	-0.12 (0.70)	-0.36 (0.64)	-0.59** (0.30)
Sector 5	-1.8** (0.85)	-31.65* (16.57)	43.26*** (9.67)	6.35*** (0.59)	-1.83** (0.74)	-0.1 (0.2)
Sector 6	-0.42 (0.63)	7.2 (7.98)	12.02** (5.06)	3.19*** (0.51)	-0.26 (0.51)	0.2* (0.11)
Sector 7	-0.51 (0.42)	10.5 (9.59)	5.86 (5.13)	5.30*** (0.51)	-0.2 (0.39)	0.01 (0.09)

Sector 8	-0.23 (0.59)	-0.06 (11.85)	17.07** (6.77)	5.32*** (0.70)	-0.73 (0.52)	0.24* (0.14)
Sector 9	1.07 (2.07)	-21.38 (20.73)	10.86 (11.64)	-2 (1.27)	2.80** (1.13)	-0.02 (0.19)
Sector 10	0.82 (2.67)	-14.78 (30.96)	24.95 (18.49)	-7.93*** (3.09)	3.21* (1.77)	-0.33 (0.48)
Sector 11	-1.41 (1.20)	-17.73 (15.62)	-2.71 (10.10)	9.28*** (0.7)	2.16** (0.92)	-0.14 (0.20)
Sector 12	0.75 (0.96)	5.16 (10.27)	8.22 (6.82)	0.44 (0.57)	0.51 (0.69)	0.31** (0.13)
Sector 13	-0.95 (2.18)	14.30 (26.49)	64.60*** (16.14)	1.55 (1.49)	-7.71*** (1.44)	1.73*** (0.33)
Sector 14	-33.22 (58.58)	-599.63 (805.45)	-255.12 (492.89)	18.05 (45.65)	135.73*** (42.94)	-23.44** (9.47)
Sector 15	-0.03 (23.64)	566.80 (375.45)	-351.18 (228.92)	4.03 (19.43)	44.20** (18.68)	-6.79 (4.62)

Table no5.

Factors that influence the valuation multiples of developing countries

Sector	Sales	Inflation	Risk	EBITDA ratio	Equity/ Assets	Quick ratio
Sector 1	-0.49 (0.74)	-13.80 ** (6.88)	5.13 (6.46)	2.62*** (0.79)	1.95** (0.90)	-0.05 (0.18)
Sector 2	-4.14* (2.19)	35.75** (12.02)	0.13 (0.17)	1.14*** (0.33)	2.14** (1.05)	-0.44 (0.34)
Sector 3	-0.20 (0.83)	14.58* (8.47)	0.11 (0.21)	4.53*** (1.14)	-0.26 (0.51)	0.39** (0.14)
Sector 4	-0.05 (0.89)	10.30 (9.72)	-0.09 (0.20)	0.58 (1.38)	1.01 (0.99)	0.24 (0.25)
Sector 5	-1.57* (0.88)	9.99 (8.84)	0.16 (0.16)	5.71*** (0.67)	1.53** (0.66)	-0,09 (0.17)
Sector 6	-0.21 (1.33)	28.64 (16.95)	0.01 (0.40)	-2.62* (1.48)	0.66 (1.22)	0.84*** (0.50)
Sector 7	-0.76* (0.42)	8.96* (5.38)	6.84 (4.39)	4.70*** (0.52)	0.05 (0.40)	0.01 (0.10)
Sector 8	-0.07 (0.61)	13.04** (6.09)	0.12 (0.08)	5.33*** (0.72)	0.06 (0.42)	0.28** (0.14)
Sector 9	-0.34 (1.39)	-19.00 (17.18)	8.98 (11.54)	-2.39* (1.34)	2.76** (1.10)	-0.01 (0.18)
Sector 10	-0.66 (1.08)	6.36 (10.27)	5.71 (6.35)	2.37** (1.04)	1.54** (0.66)	-0.18 (0.18)
Sector 11	-0.44 (0.69)	-4.66 (6.42)	8.22 (6.82)	0.44 (0.57)	0.51 (0.69)	0.31** (0.13)
Sector 12	0.95 (0.57)	10.93* (6.19)	-7.79 (4.90)	0.92 (0.58)	2.18*** (0.56)	0.06 (0.11)
Sector 13	-3.33 (9.52)	10.14 (100.31)	105.02 (72.91)	-9.18 (7.69)	-8.14 (7.85)	2.58 (1.71)
Sector 14	0.89 (1.51)	-25.78* (14.42)	55.54*** (11.98)	1.22 (1.23)	-6.30*** (1.13)	1.63*** (0.31)
Sector 15	-2.47* (1.43)	36.44*** (11.12)	0.78*** (0.27)	6.68*** (1.54)	-3.70*** (0.98)	1.09*** (0.29)

Results and conclusions

Analysis of these results both for developed countries and for developing countries allow the following conclusions and observations:

A) Relating to independent variable represented by the *size* of the companies and quantified by salesit can be observed first that firm size is statistically significant for valuation multiples only

in very few cases and never to 1%. More exactly for the developed countries the company size is significant for dependent variable analyzed in 5% only for sector 5 - air and sea transport and aeronautics. For the developing countries this variable is statistically significant at 10% for sector 2, 5, 7 and 15. Therefore it can be concluded that company size does not influence significantly the valuation multiples or the company size influence is diminished by the influence of other factors (independent variables) considered in this analysis. To quantify the correlation between company size and valuation multiples it's required a separate analysis in which the independent variable has to be represented only by an element of size quantification.

Secondly, analyzing the results we can conclude that in about 85% of the analyzed sectors there is a negative correlation between company size and valuation multiples. In other words multiples of company value decrease with increasing its size and vice versa.

For those cases in which there is a positive correlation, one explanation could be that for some sectors (eg chemical processing industry) in wich an important part of the market is held by a small number of companies (oligopoly or monopoly) investors consider the company's size as an important and positive factor for the company's stocks value that determines to appreciate more the larger companies with a high market share and high stability in the detriment of small companies that are more risky especially in the case of concentrated markets. In our opinion, we believe the company size influences the levels of multiples value of equity or of invested capital, which can be proved by a similar analysis that should used as independent variables only company size.

B) The second independent variable, represented by the *inflation* rate for the country of origin of the companies analyzed show a different influence between sectors, both in terms of relevance and in terms of correlation. Thus, in developed countries where inflation risk is low, the analysis reveals that inflation is not statistically significant for valuation multiples of analyzed companies,a normal and natural aspect in our opinion due to price stability in these countries.In contrast, in the case of developing countries we can see that the influence of inflation is statistically significant for 9 of the 15 sectors analyzed. The correlation is positive (except for sectors 1 and 14) so that an increase in inflation cause a change in the same direction to valuation multiples. The explanation for the lack of correlation in the case of several sectors (6 sectors of 15) lies in the fact that the production of these companies is intended in large proportion for export and thus it removes the effect of changes in purchasing power of the domestic market. Such sectors are producing industrial equipment, construction materials, sectors producing electrical and electronic equipment and pharmaceuticals.

C) *Country risk* as an independent variable influence the valuation multiples in only a few isolated cases.Correlation is mostly positive, which is reflected in an increase in multiples levels with increasing the country risk. This aspect is considered normal because an increase of country risk for companies in the same sector and in different countries naturally implies a decrease of sales for companies in those countries and thus an increase in valuation multiples of companies as the the perceptions of investors are relatively constant for a given sector. Negative correlation occurs when companies belong to sector from developed countries characterized by high stability and less influenced by the economic situation (utilities, mining, certain sectors of agriculture, metallurgy, etc.) and that an increase country risk not does not involve a decrease of sales for companies in that country or this decrease occurs in a lesser extent than the increase in risk and vice versa.For two sectors in developed countries country risk is statistically significant at 1%, namely aerospace and pharmaceutical industries. Similarly, in the developing countries there are two sectors for which country risk is statistically significant at the 1%, namely the metal sector,the utilities and energy.The correlation is positive in both cases. In the developing countries the explanation for the importance of country risk for the perception of investors in the stock market lies in the fact that the two sectors are closely linked to the evolution and status of the national economy (which influence the risk of the country). In case of aeronautical and pharmaceutical sectors in developed countries that are less related to the national economy of the country of origin, a possible explanation of the

relevance of country risk may be due to the fact that usually a downgrade of the rating of a country in Western Europe (and hence an increase country risk) takes place in a Europe-wide economic downturns or such downgrade causes a decrease in the investors confidence in the capital markets in Europe. Due to these circumstances, the sectors covering a large number of countries (as the market for goods or services) are the most dameged in terms of sales, determine thereby changes of the valuation multiples.

D) *EBITDA ratio* is the independent variable that has the greatest influence on valuation multiples both in terms of number of sectors for wich this influence is relevant and in terms of statistical significance of the variable.The correlation is positive in about 90% of cases, which means that for two companies in the same sector which obtained almost equal sales, investors apreciates more the companies that have a higher operating return rate, and thus the valuation multiplesare changing in the same direction as the EBITDA ratio. We believe that this result is natural and reflects the perception of investors in the capital market. There are some exceptions that cause a negative correlation between the EBITDA ratio of certain sectors of a company and its valuation multiples. This is due to, in our opinion, that in these sectors, were the research, development and innovation activity are very important (pharmaceuticals, energy, electronics, etc.) investors considered less relevant the profitability of operating activities and consider more important the investments in research and innovation.

Consequently, a EBITDA lower rate is the result of investment in research and innovation and modernization in terms of almost equal sales is positively assessed by capital market investors, thereby increasing valuation multiples.

E) The report equity / asset known as *financial autonomy*exert a statistically significant influence over 50% of the analyzed sectors. Influence is statistically significant at 1% for sectors 13 and 14 in developed countries and sectors 12, 14 and 15 sectors in developing countries.

Analyzing the data obtained some interesting conclusions can be drawn regarding the perception of investors in the capital market in relation to the capital structure of the companies analyzed. First observation is that the correlation is positive for some sectors in the case of developing countries and negative for developing countries or vice versa.The positive correlation indicates that investors appreciate positive capital structure based on a greater extent on equity. This is natural when these sectors are characterized by a high degree of technological progress incorporated and which for that reason investors prefer financial stability. Negative correlation occurs especially for sectors based largely on research and development and in wich the technological progress is important for business growth. For these sectors, a low rate of leverage (equivalent to a high rate of financial autonomy) reflect in most cases the lack of investment in research and development or modernization, thus having a negative impact on valuation multiples and thus the value of companies. Such sectors are pharmaceuticals, aeronautics, automotive, etc.

Another explanation for the negative correlation existing between financial autonomy and valuation multiples of companies lies in the investors perception that a structure in which the main weight of the capital is represented by equity is related to large companies that have reached maturity and where the increasing of their activity is less likely and thus the possibility of winning for the market participants is low. As a result, such companies are less preferred by active investors in the capital markets, resulting in a negative correlation between the rate of financial autonomy and valuation multiples of this companies. Regarding the different optic of the investors from the developed capital markets relative to the developing capital market for the same sector,opticthat is translated by opposite correlation of the financial autonomy rate in relation to valuation multiples, we believe that this behavior derives from the fact that indebtedness in developed countries is seen as a sign of the investments made by companies that cause an increase in appreciation of investors while a high gearing for companies in developing countries is seen by investors as an additional risk. This makes for some sectors the correlation between financial autonomy and valuation multiples to be the opposite.

F) *Quick liquidity ratio* as independent variables used to determine valuation multiples have both a positive and a negative correlation in relation to valuation multiples, this ratio being statistically significant for 50% of the analyzed sectors.This means that investors consider this aspect of the liquidity important for company's future and thus to the value granted to their stocks. Different correlation that exists between the quick ratio and valuation multiples is based on the different characteristics of each sector and the importance that investors attach to liquidity. Thus, in all cases where the liquidity is statistically significant at the 1%, the correlation is positive, meaning a higher rate of quick liquidity ratio determine a positive influence on valuation multiples. A negative correlation between liquidity rates and valuation multiples could be explained by the fact that in some areas a high rate of liquidity is associated with a low rate of investment, which negatively influences investors' perceptions of future evolutions of this companies.To this adds the the fact that for several sector the cashing risk is lower due to the specific features or size of markets.Such is the aeronautical sector, the industrial equipment, the electronic equipment, etc.. Investment for this sector is a very important factor for the progress of business and the market is regional or even global, which reduces the risk of cashing.

Summarizing the above we can conclude that the use of value multiples of comparable companies in the market approach used to estimate the market value of a company should take into account the differences in perception of investors both in the level of economic development of the country in which companies operate and according to economy sectors in which they operate. In other words multiples used to assess a company's value must come from companies in the same sector and the home country of the companies should have a similar level of development of the national economy.The methodology to correct these multiples when using companies from countries with similar development levels is not possible or when the size is very different will be subject to future research that will try to improve this study.The main improvement that this research brings to the literature is the use of a sample of comparables companies from the entire Europe, not just from one market, differentiated by the level of development of these countries. Also this methodology includes both endogenous and exogenous factors that influence that valuation multiples while most of the similar studies only take into account the endogenous factors. Also for improving this research we intend to separately quantify the influence of country risk on these valuation multiples of the companies and to design a methodology for correcting these multiples depending on the country risk and the size of the company.To improve research we also consider multiples correction methodology for companies' financial performance expressed by a synthetic indicator of financial performances, indicator estimated by using several financial ratios considered representative.

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