National and international exigencies on increasing the quality of accounting information generated by evaluation by comparison

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NATIONAL AND INTERNATIONAL EXIGENCIES ON INCREASING THE QUALITY OF ACCOUNTING INFORMATION GENERATED BY EVALUATION BY COMPARISON

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Abstract: The approach by comparison establishes the limits of the shares market value by analyzing the prices, normally paid for shares to the competing entities to the one evaluated. In order to select the comparison base, the motivations of the parties involved in the transaction must be identified. Selling prices which reflect a different motivation than the typical motivation of the participants on the market shall be eliminated. These prices will be analyzed by using some proper comparison units, being adjusted depending on the differences between the compared entities and the evaluated entity. The application of these approaches requires some sufficient market information, as well as a degree of market stability, in order to ensure the relevance of the comparison bases used.

Key words: *evaluation, accounting information, indicators, comparison*

JEL Classification: G32, M41

1. Introduction

We believe that our study should be oriented to a detailed and critical emphasis of the concrete manner in which the evaluative approach leaves its mark on the entities activating in the quite "shaken" business environment of the contemporary Romania.

Taking into account this objective, we must "start" by mentioning the fact that the evaluation process supposes the credible estimation of the value of an balance sheet element or of the overall entity, based on the analyze of al available information. In order to estimate the entity's value, the evaluator can use three evaluation approaches or modalities, namely:
- approach based on assets;
- approach based on income;
- approach by comparison.

Every type of approach comprises several evaluation methods and techniques, and, in practice, all the three approaches can be used in order to estimate the entity's value. The selection of a particular type of approach or of a method depends on the type of entity, on its situation on the evaluation date, on the available information, on the aim of evaluation etc. Evaluation standards recommend that the evaluators use at least two approaches when they are evaluating an asset or an entity.

The economic evaluation, in that of the evaluation doctrine and, implicitly, of the International and National Evaluation Standards, is a complex estimation process of a particular type of value, usually, the "market value".

The approach by comparison consists in establishing the current value of a property by comparing the similar prices transacted on the market. This process supposes the analysis of the transactions with similar and relevant entities, their comparison to the evaluated one and the value estimation by using conversion keys (also called multipliers or value ratio).

This multiplier can be established though the formula:

$$Multiplier = \frac{Share\_action\,(capital\,market\,value)}{Re\,levant\_economic\_parameter}$$

The evaluated entity value (V_0) is established as follows:

$V_0 = Pe \times Vpc / Pc = Pe \times M$

in which:
- Pe – relevant economic parameter of the evaluated entity;
- Vpc – market value of the capital of compared entity;
- Pc – relevant economic parameter of the compared entity;
- M – multiplier.

2. Evaluation by comparison, defining aspects in the used indicators selection

The approach by comparison on the market is based on the **substitution principle,** which supposes that, in case of alternatives, the investor prefer the lowest price at equal risks, a well-informed buyer is not willing to pay on an asset a higher price that the purchase price of an asset compared to profitability and risk.

The mentioned method establishes the limits of the shares market value by analyzing the paid prices normally for the shares to competing entities and the evaluated one. In order to select the comparison bases, the motivations of the parties implied in the transaction shall be identified. The selling prices which reflect a different motivation than the typical motivation of the participants on

the market shall be eliminated. These prices will be analyzed by using some proper selection units, being adjusted depending on the differences between the compared entities and the evaluated entity.

The application of these approaches requires some sufficient market information, as well as a degree of market stability, in order to ensure the relevance of the used comparison bases.

The process of the evaluation by comparison supposes some stages present in what follows.

- **Choosing the multiplier** consists in the fact that, depending on the entity's type and the evaluation aim, the evaluator must select those multipliers which best reflect the differences between the compared entities and the evaluated entity.
- **Identifying the similar and relevant entities** supposes the selection of those entities whose financial and economic indicators have similar characteristics regarding the profitability, risks, flow of liquid assets, potential of increase etc.
- **Comparing the data (normalization)** requires data adjustment taking into account the differences between entities concerning the applied accounting policies, the degree of debts, exploitation assets or outside exploitation etc.
- **Calculating a value for each used multiplier.** The selection of several compared entities requires more values for a multiplier**.** That is why, it is necessary to apply a proper methodology, aiming to obtain a single value for a multiplier.
- **Adjust the multiplier for the country risk difference.** This method is applied whenever compared transactions are used in a foreign country, and it is necessary to adjust them in order to highlight the country risk difference
- **Adjust the temporal variables** supposes some corrections when the multiplier resulted from previous transitions are compared so that multipliers can be changed in time and, consequently, the value of multiplier shall be changed too.
- **Adjust the unsystematic risk** lead to the correction of multipliers depending on the degree of control provided by the evaluated shares to the owner and of the liquidity of the shares on the market.
- **Establish the value of the evaluated entity** highlight the act that, by applying the multiplier's value to the suitable economic parameter of the evaluated entity, the estimated evaluated value is.

If we make an analysis of the trading price of some entities and of the published financial indicators (net profit, turnover etc.), we can obtain useful and relevant indicators for evaluating an entity. In the selection of these financial indicators it is compulsory to take into account a correlation to the trading price. Thus, if we analyze the report between the share price and the profit per share, a multiplier is obtained, expressing the amount paid for the annual profit of that share (or, as the case may be, of the property).

At the numerator of the calculation relation of a multiplier, there can be used the:
- ✓ Share price;
- ✓ Market value of the equity capital (Kpr);
- ✓ Market value of the invested capital (Kinv).

The denominator (the relevant economic parameter of the compared entity) can be represented by:
- *a.* Variables related to the accounting profits;
- *b.* Variables related to the turnover or other income;
- *c.* Variables related to the accounting value of the equity capitals, assets or net cost of assets replacement;
- *d.* Variables related to the specific operational characteristics of the activity profile.
- *a.* *The profit multiplier* are:
- **Share price/net profit per share (PER)** – is the most used multiplier in order to estimate the market value of a share; it can be applied to the entities with;

- **Multiplier PERg** – is the repost between PER and the expected increase ratio g. It can be applied to the entities which register a high increase ration.
- **Price share/gross profit per share** – is applies when there are different levels of the tax rate;
- **Kinv/(net profit + interests)** – is used in order to estimate the value of the invested capital, in which the denominator reflect the remuneration f this capital . the indicator used to the denominator is not affected by the degree of debts, being less sensitive to the debts rate compared to PER.
- **Kinv/self-financing capacity** – self-financing capacity (CAF) reflect the monetary net profit (unbreakable) of the entity, and is not influenced by the policy of amortization and of provisions establishment, and on this ground this rate is recommended in the detriment of the previous rate;
- **Kinv/cash-flow** – the denominator reflects the cash flows of the entity, namely the collected net profit. This multiplier is recommended when the entities register a different volume of claims and debts, as well as different receipt and payment terms.

b. The multiplier of the turnover are:
- **Price of share/turnover per action** – is used for the entities which have an important portfolio of clients (regularly in the field of services). This multiplier can be applied when the selected entities have an homogenous turnover similar to the evaluated entity and when the degree of debts is similar.
- **Kinv/turnover** – is similar to the previous one, being used for estimating the values of the invested capital.

c. The multiplier of the accounting values are:
- ❖ **Share price/accounting net asset per share** – is useful when the assets accounting value is closed to the value on the market and when the intangible assets don't have a significant impact on the entity;
- ❖ **Kpr/cost or assets replacement** – is a frequent indicator used in the decisions with investments. A sub unitary level reflect o sub evaluation of the entity's shares, while a supra unitary level shows a supra evaluation of the entity
- ❖ **Kinv/total assets** – has in view the report between the market value of the invested capital and asset accounting value.

d. Operational performance multipliers are used in certain fields of activity, combining financial indicators with certain indicators specific to that branch. Thus, in hotels, a commonly used multiplier is **price / room** and a TV cable entity is evaluated on the basis of the **price / number of customers**.

We believe that in the selection of indicators used as basis for calculating the multipliers, it is necessary to consider their definition at the same level of reporting. We argue this statement by the fact that the accounting value of the assets concerns the entity as a whole and therefore, in the construction of the multiplier we consider the market value of invested capital and not of the equity. The net profit obtained is due to the entity's shareholders, and it can be distributed to them as dividends. In this case, we believe that the appropriate multiplier must take account of net profit and market value of equity.

An example of an **inconsistent multiplier** is price/turnover. Price is a variable that defines equity and turnover refers to invested capital, and it should more accurately be correlated with this indicator. The comparison Kpr/CA can still be done in the following conditions:
- ❖ when the debt ratio on equity is similar;
- ❖ when the assessor makes adjustments of the multiplier due to the difference in debt.

When choosing the multiplier, we can also consider other indicators, such as life cycle the entity goes through, expected growth, branch in which the entity operates, the level of profitability, the purpose of the assessment, a.s.o.

For example, new businesses have a high volatility of economic parameters. They may have good growth potential, but normally, in the early years of operation they register losses. In this case, we can use the method of updating the cash flow, but it is more difficult to use methods based on comparison. The most relevant multipliers in this case, are those based on turnover.

Entities with a high degree of maturity, which are less diversified, can use the full range of presented multipliers, and the most relevant ones are those based on profit.

Non-financial services entities have a strong correlation between profit and turnover. Advertising agencies, insurance entities, consultancy entities, etc. have as representative the multiplier reports built on turnover, a situation which does not apply to entities producing goods.

The elements of comparison are those characteristics of the business or action evaluated determining the trading price differences. Such elements include:
- size of the entity;
- data of transactions – they must be, if possible, recent (as close as possible to the effective date of assessment);
- motivation of the parties (sale conditions);
- price;
- quantity – price depends of the quantity sold (size of stock package);
- type of transaction.

We can see from this that the elements of comparison are reduced, in fact, to the assessment rates, which are ratios between trading prices and financial indicators retained (profit, turnover, net asset accounting, cash flow, etc.).

The maximum impact of accounting information cannot be obtained, in our opinion, unless that valuation rates meet several requirements, stated below.
- ❖ the calculation method must be precise;
- ❖ when using averages, the time for which the average rate is calculated should be appropriate to the rate of the assessment and type of entity;
- ❖ pricing information must be valid at the date of evaluation;
- ❖ if necessary, corrections and adjustments must be made to ensure comparability and for the low degree of liquidity;
- ❖ to provide pertinent information and relevant to the value of the entity;
- ❖ when using information on previous stock transactions of the assessed entity, corrections and changes have to be done, due to the passage of time and changes occurred, both in terms of the economic environment and the performance and risks of the entity.

Comparability criteria refer to the grounds of comparison used, they must meet the requirements of similarity and relevance. The main comparability criteria specified by the assessing standards are:
- ➢ *field of activity* - comparable entities must operate in the same field of activity and be under the influence of the same economic variables (supply market, trading market, etc..)
- ➢ *quantitative characteristics* - entities used as a basis for comparison must have dimensions similar to those of the evaluated entity (the size of assets, equity, turnover, number of employees etc.).
- ➢ *qualitative characteristics* - comparable entities must have the quality parameters (technical, economic, financial, etc..) close to those of the entity assessed.

Among the most important variables that can be retained as criteria for comparison are:
- ➢ branch and profile of the offer for products/services;
- ➢ customer profile;

- ➢ situation of market competition;
- ➢ situation and structure of suppliers and operational costs of entities in the field;
- ➢ financial structure and rate of debt on equity;
- ➢ current situation and predicted evolution of performances.

If we focus on evaluation by comparison, we believe that choosing appropriate values for the multiplier enjoys special attention. To achieve this goal, the following conditions must be met:

- **normalization of accounting information** - involves making corrections on economic and financial information in order to reflect only the elements directly related to the main activity of the entity and uniform the practices used; such corrections relate to the elimination of extraordinary items in the profit and loss account, adjustment for differences in accounting practices related to stocks, depreciation, amortization, adjustment of the elements outside operation, etc.;
- **using the same calculation relationships for the multiplier** – taking and using published indicators, which have different calculation formulas from one entity to another, adversely affecting the value of the multiplier and the assessment process;
- **using the same timeframe for measurement of the value of the indicators**;
- **atypical data correction**;
- **calculation of synthetic multipliers**, by the following methods:
  - ✓ use of statistical sizes for location;
  - ✓ use of multiple regression analysis.

Keeping us in the same area of methodological interest, we believe it appropriate to mention the fact that resorting to statistical methods adds accuracy, mainly by using the median or harmonic average. The median is the most often used and is the middle of the interval of a row of elements in increasing or decreasing order. Harmonic average is used to reflect the average return on a portfolio of companies with different multiples.

Multiple regression implies calculating the synthetic multiple based on a linear or non-linear relation between the various fundamental variables of the entities. The correlation between the respective indicators can be determined based on a statistical set of entities or we can consider the entire market. The downside of using multiple regression is that the link determined statistically between the variables is modified in time, and its periodical update is necessary.

For instance, the calculation of PER based on multiple regression can be done according to a relation of the type:

$$PER = a + b \times R_1 + c \times R_2 + \ldots$$

where:

a, b, c, ... – parameters of the regression function;

R_1, R_2, ...– fundamental variables of the entities (economic-financial indicators or payments)

The comparison method can be applied when there is an active market, with a sufficient number of transactions and which can be verified. The information sources on which the comparison method is based when evaluating entities are:

- financial markets of security values where participations for similar entities are sold;
- the market in which entities are bought and sold in its entirety;
- previous stock transactions of the entities evaluated.

3. Specific aspects of the methods of approach by comparison

The most important methods of approach by comparison are presented below.

a. Method of comparison with minority stock transactions (shares in listed entities), considers the fact that transactions with equity of similar entities constitute a relevant baseline for

establishing the value of the assessed entity. This is because the stock market cost of a share is determined in the market according to the same factors of influence for all entities, respectively past and projected profitability, risk, growth rate of the entity and sector etc.

In order to apply this method, it is necessary to obtain information regarding listed entities, so that we can analyze their comparability with the entity assessed. The main criteria used to select comparable entities which have registered transactions with minority stakes are:

➢ field of activity;
➢ market on which they activates;
➢ products offered on the market;
➢ size of the entity;
➢ comparability of historical financial performance.

After defining the selection criteria, it is necessary to establish the population of entities to be extracted. After selecting the entities that meet the criteria defined, it may be necessary to eliminate certain entities, if their use as a basis for comparison would distort the results obtained.

The evaluation methodology implies following these steps:

- *defining the multipliers or of the value rates and the determination of the concept of capital used,* respectively of the shareholders (equity) or invested;
- *determining the period of calculation and analysis of multipliers* - it should be a relatively recent period, and could be considered: the average of the last 12 months, the last financial year, the weighted average of the last 3-5 years (for cyclical activity branches), estimate for the current year, etc.;
- *performing adjustments to the financial information* - such corrections are to ensure comparability of the selected entities with the entity evaluated and concern: the elimination of extraordinary items, adjusting inventory when using different methods of evaluation, adjustment of immobilizations when different depreciation policies are used, etc.;
- *selection of multipliers* - the evaluator, based on experience and knowledge, should choose those indicators that provide a high degree of comparability, but also meet the criteria of consistency;
- *selecting the level of the multiplier considered* – implies the choice, from the range of values obtained for the multiplier, of a certain level, using one of the following procedures: arithmetic average, median, minimum or maximum level or a level outside the range of values generated by the multipliers of the entities selected.

Since it is based on tracking and analysis of similar situations of stocks trading of the entities, we believe that this method can provide only an approximation with a significant level of uncertainty of the target in the evaluation, so that we can not recommended it.

b. The method of comparison with sales of unlisted entities (mergers and acquisitions market). The comparison is transactions with entities or transactions in whole majority packages. Particular attention should be given to the conditions in which transactions with comparable entities are achieved because, in many cases, operations of mergers and acquisitions involve synergies. In such situations, the transaction price reflects, most of the time, the investment value and not the market value. The stages of application of this method correspond roughly with those presented above.

c. The method of comparison with previous transactions subject to assessment, in principle, we feel offers the best picture of the market value, because the basis of comparison is the previous transactions with shares of the assessed entity. This method is not, however, always the most relevant, because the conditions and terms of the transaction may not be part of the optic of market value and can change considerably over time.

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