

FORECAST OF FINANCIAL VALUES

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Abstract:

The forecasts and the forecast calculations are used within the output or the profitability methods, for the completion of the shortcomings of the asset-based approaches, in order to establish the value of an enterprise or of a business. The core of the forecasts consists of the expected growth of the results of a business, and also the evaluation of the strategic position of an enterprise. With the help of the leverage effects, one can establish, by means of statistical estimations, the chain effects of the results' sensitivity to the volume of activity's variations registered during the previous period on the forecasting of the possible future results, and based on their (forecasted) evolution, one can elaborate the financial forecasts which refer to the economic - financial decisions.

Key words: forecast, forecast calculations, efficiency values, patrimonial values, prognosis horizon, leverage effects, leverage coefficients.

JEL classification: G 17

“The best way to forecast the future is to invent it by ourselves”.
(Alan Curtis Kay)

INTRODUCTION : THE ESSENCE OF FORECASTS

The assessment of a company aims to establish the value of a business at a certain point in time, to estimate the real fortune of the shareholders and also their potential in order to increase this wealth. Therefore, the assessment of a company doesn't stand only for establishing the value of a property or of the assets, but it also supposes to determine its capacity to generate flows in the future (profit, cash-flow), that the owner should possess, considering the fact that the evaluated object is an asset which has the capacity of creating other goods in its turn or generating income.

A customer or an (potential) investor is interested in purchasing an enterprise only as far as this has the capacity to generate profit or dividends in the future. Thus, the investor doesn't buy any of the active, passive or patrimony assets of the enterprise, but the advantages, the benefits and the surplus values resulting from the use of the business or from purchasing a holding share.

The data which forms the grounds of the enterprise's valuation is the one drawn out from the economic account of the entity, where the decisive percentage is held by the accounting data. This data are estimated as being *statistic and past-oriented*. Nevertheless, the evaluation of the enterprise should also emphasize its capacity of keeping and perpetuating the production of positive financial results. Consequently, the evaluation must also be performed from the standpoint of the *future anticipation*.

The 2 techniques of comparing the flows emitted in time are *the updating and the capitalization*, the former being as a manner of bringing a sum of money from the future to the present time, and the latter the other way around, taking the money from the present to the future. From a different point of view, the updating is seen in a double sense, as a technique of bringing a sum of money from the future to the present, but also as a way of bringing a sum of money from the past to the present. Also speaking about updating and considering the aspect of **time** while evaluating the enterprise, from a third perspective, the anticipation replaces capitalization, with the distinction that, as compared to capitalization, the anticipation doesn't take into account only the present values, but also the previous ones and capitalization is not seen as being the reverse of updating, like we were used to, but as a method resembling this one (the updating), with the following differences: the capitalization takes into account a constant cash-flow or one having a constant increase and an undetermined time period, while the updating takes aim at unequal annual flows, having a well-determined period of time.

PATRIMONIAL VALUES VERSUS EFFICIENCY VALUES

The idea of time considering, altogether with the information, as a rare resource that the enterprise owns, has been found in the writings of some foreign financial-accounting authors.

When it comes to evaluate an enterprise, a great importance is being held by the business's productivity values when compared to the patrimonial ones. This standpoint is being motivated by the fact that, for a running business, the efficiency values have a greater relevance, due to fact that they are anticipatory, being the ground upon the business's future, taking into account its tendencies in the domain of strategy, profitableness and remunerative advantages (prospective analysis). On the other side, the patrimonial methods are used most of all for estimating the value of a business that ends its activity (retrospective analysis). They are at times used in order to establish the value of an enterprise that works; and yet, the major critic brought to it is the fact that, in general, they are being based upon the historical values of the business, which are eventually transformed into actual (present) values, available at the evaluation date (moment).

The essence of forecasts is represented by the expected increase of a business' results. Generally speaking, the assessment of a business's future results is being made according to the nature of the evaluated business (activity object, financing structure, the previous performances, the evaluation tendencies), the factors from the activity branch of the enterprise (business cycles, competitors evolution) and the macroeconomic ones (evolution of the demographic structures, of the socio-economic patterns, of the degree of occupying the manpower).

Any forecast is based upon historical data. This is being provided by the annual financial statements. The information extracted from the last year or the last 3 years' financial statements can be analyzed and expressed in monetary or percentage terms. The analysis in monetary terms is used in order to establish the tendencies and the relations between the income and expenses, elements (the goal of each expense should be the one of generating later an income which is greater than itself) which are studied *in dynamics*. These correlations reflect the expected income for the future time.

Moreover, the essence of previsions is represented by evaluating the strategic position of the enterprise. This reflects the characteristics of the activity area and the competitive advantages or disadvantages of the business. In other words, what is being tried is the determination, by means of specific analysis techniques, of the enterprise's increasing potential to generate profitableness proportional to the cost of the capital invested in the business.

The available forecasting methods in order to assess the business are being classified into the following categories:

a) Methods based upon analytical calculus, case in which every income, expense or any other element of patrimony which is a component part of the result or of the cash-flow to-be-estimated can be anticipated. As a rule, the variation of elements is being prefigured in many ways, thus resulting at least 2 scenarios of the activity's evolution: pessimistic and optimistic.

The drawn up evolution scenarios represent qualitative depictions of the business's performances and of the future elements' influence upon them. The motivation behind the compiling of several anticipatory scenarios is the one of working out afterwards the most probable variant of the business' anticipation (forecast) and value. Most often, the scenarios are being attached by the realization probabilities. Thus, the values obtained each anticipation's result are being multiplied by the realization's probability of each of them, thus resulting the business's value.

The prevision methods based upon analytical calculus can start from anticipating the elements of a balance-sheet and those belonging to a profit and loss account. From this anticipatory documents are being derived the result or other value indicators which are meant to be evaluated. The most frequently met technique of developing the anticipatory (forecasted) book-keeping documents is the one which starts from the level of sales, which in its turn is connected to the evolution of other variables: expenses, the need of circulating funds. The forecast is based upon the historical levels of variables, after which there are being taken into account the characteristics of the

activity area that had the most powerful impact upon the values of the indicators in the past; which skills specific to the company have had the greatest influence upon the historical values of the indicators; if the nature of the activity area and the company's skills can maintain the past evolution also in the future; the changes which could appear in the sector of activity or in the company, meant to give birth to significant changes in the historical values of the indicators.

b) Methods based upon synthetic calculi, when the cash-flow is being estimated according to the predictable evolution of the activity and the company's profitableness factors and the sector to which this belongs: the profitableness of the invested capitals, the investments' share, the medium rate of increasing the business (sales, profit) or its activity area.

The updating technique makes allowance for the expected increase and the setting in time of the results, the *risk* and *uncertainty* associated with the results' flow and *the time value of money*. Therefore, the 2 factors determining the updating are the risk afferent to the results which are being updated and the loss of opportunity connected to the alternative investments of the same result.

The turning-to-account rate of the invested capitals punishes the sums which are going to be obtained in the future, due to the fact that, regardless the inflation, these have a lesser value nowadays as a consequence of the *risks and uncertainties* which could intervene in the future, and also as a consequence of the *loss of opportunity* to invest the same sum of money today but on some other market, at the desired profitableness degree.

Referring to the prognosis horizon afferent to the prevision of the cash-flow, this represents the time period necessary for the business in order to progress from the present stage to the complete competitive equation. In the practice of evaluations, in the framework of the updating methods of the cash-flow, the previsions are being made upon a time horizon divided in 2 time periods: the first, named explicit forecast horizon or time period, corresponds to the visibility horizon of the enterprise; the second, called non-explicit horizon, corresponds to the remaining years from the enterprise's life, considered undetermined if the evaluation is being made on the base of continuing activity principle.

The following scheme presents suggestively the visual differences between the asset-based (patrimonial) and the output (profitableness) values [2] (Dumitrean, 2009) :

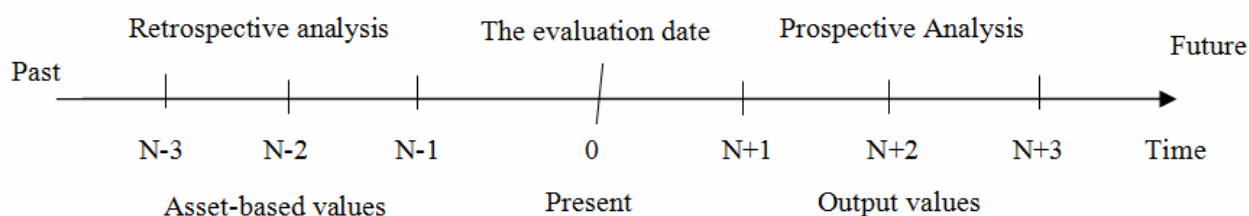


Figure 1. Comparison between the asset-based values and the output values of a business

Source: Projection adapted by the author

The output values are market values because these are based on market information or they derive from the market conditions, together with the information that illustrate the nature of the evaluated business. Among the market information there are: the profitability rates of the alternative investments, the advantages provided by the control owned, the advantages and the disadvantages of the lack of liquidity and solvability etc.

To estimate an output value by elaborating a forecast is more difficult than to establish current values of the assets (asset-based values) because, at least at a first glance, a forecast cannot be sustained with arguments, the way the current evaluation seems to be. However, although the arguments that form the basis for the determination of any value, particularly the one based on forecasts, are not that obvious, verifiable or easily assimilable, a forecast can and must be *credible*. That if it's based on relevant sources of information and on specialty techniques.

According to the professional evaluation standards [1] (Deaconu, 2002) the forecasts must be made using the transparency principle, so that the used theories, the reasonings, the analysis and the economic shaping should be explicit and understood by the client(s).

The techniques used to obtain an accurate forecast are divided, according to their type, as follows:

- short-term forecasts, that must be based on market information, on economic and market prospects;
- long-term forecasts, that must be based on all the appropriate economic factors, according to the available knowledge, to the market's actual expectations and to the available economic and market data.

In relation to the (business) evaluations, these can be made for the enterprises that will be founded in the future or for the existing ones, which already have a past and a present. The enterprises that belong to the first category are evaluated by means of specific methodologies for the analysis of the investments' (investment projects') economic efficiency. These methodologies are substantially different from the methodology used to evaluate the existing companies in relation to both the content and aimed objectives. Even if in both cases there are used some indicators with similar or even identical names, as, for example, rates and updating factors, incomes, costs, profit, cash-flow, the specific calculation and forecast methods are significantly different. In the case of both methodologies, an essential role is held by the *forecast calculations*, that differ according to the informational support and the methods and techniques used [4] (Maxim, 2008).

The value of an existing enterprise is influenced by its past and by its present state, but it's given by its future evolution, by how useful it's going to be for the (present and/or future) owner. The future of the enterprise can't be identical to the present and even less to the past. Therefore, not taking into account the past elements in order to establish the (present or future) value may lead to large deviations from the reality and to serious evaluation errors. Unlike the forecasts for the newly founded enterprises, the forecasts regarding the existing ones are based on an important amount of information obtained from the *diagnosis analysis*. The evaluators will use this informations, to which they will add new ones, selecting and using the most adequate forecast methods (techniques) and models in order to obtain reliable, appropriate and useful values for the beneficiaries of the evaluations.

The specific analysis techniques presented especially in the American specialty literature overlap over the approaches of the SWOT analysis (strengths – advantages, weaknesses – shortcomings, opportunities and threats), the difference being that the analysis techniques are more synthetic. Among these specific analysis techniques we advert to:

- the analysis of the customers' segmentation;
- the analysis of the business' competitiveness;
- the structure analysis of the field of activity.

The forecast calculations aren't necessary in the case of the asset-based evaluations, but in reality, there are only a few cases in which just the values determined by means of these techniques are accepted. In the cases where forecasts are necessary in order to determine the value of an enterprise, the acceptance of the value (values) by the beneficiaries of the evaluations is conditioned in large amounts by the *credibility* of these forecasts. When making forecasts, the evaluators will use the diagnosis analysis results, but also informations from other sources, including evaluations made by managers and experts in various fields of activity.

In order to make the necessary forecasts for the evaluation, there are several stages to go through [4] (Maxim, 2008):

- setting the indicators that are going to be forecasted;
- gathering and analysing the informations regarding the past and the present of the entity;
- selecting the forecasting methods and making the forecast calculations;
- gathering of data, analysing the results obtained and establishing the values that will be taken into account for the evaluation calculations.

Eventually, in the case of the same evaluation method, one can obtain one or more values, each one of these being characterized by a certain *probability* of proximity to the real value.

THE ROLE OF THE LEVERAGE EFFECTS IN THE FINANCIAL – ECONOMIC FORECASTS

The cost – profit analysis (or the cost – volume – profit analysis \Leftrightarrow Break Even Point Analysis) aims at the financial – economic performance of the enterprise, having as a starting point *the profitability threshold*, allowing the research of the relationship between profitability and various risk categories (economic, financial, global or total). The evaluation of the financial – economic risk based on leverage coefficients must be accomplished by using the results obtained during the previous period and evaluating their effects on the financial – economic performance of the enterprise during the following period, all these should be taken into account in the case of financial decisions [6] (Petrescu, 2008).

The financial – economic analysis, *oriented towards the future*, may establish, by means of statistic evaluation, the chain reaction effects of the results' sensibility to the variations of the activity volume registered during the previous period by forecasting the future results which will be obtained with the condition that during the following period, the leverage coefficients should have unchanged values [5] (Petrescu, 2008) .

Therefore, based on the known growth (the same as in the previous period) of the physical volume of production (Δr_p) or of the turnover (Δr_{TO}), taking into account the relative growths of these indicators – the following effects can be anticipated:

- The exploitation leverage effect (ELE) represents the relative (percentage) modification (variation) of the exploitation result (Δr_{ExplR}) influenced by the growth of the activity volume (Δr_p) or (Δr_{TO}):

$$ELE = ELC \times \Delta r_{TO} = \Delta r_{ExplR} (\%) \quad (1)$$

where:

ELE – the exploitation leverage effect,

ELC – the exploitation leverage coefficient,

Δr_{TO} – the relative variation of the turnover,

Δr_{ExplR} – the relative variation of the exploitation result.

- The financial leverage effect (FLE) shows the relative variation of the net result (Δr_{NetR}) as a consequence of the exploitation result's growth (Δr_{ExplR}):

$$FLE = FLC \times \Delta r_{ExplR} = \Delta r_{NetR} (\%) \quad (2)$$

where:

FLE – the financial leverage effect,

FLC – the financial leverage coefficient,

Δr_{NetR} – the relative variation of the net result.

- Finally, the total leverage effect (TLE) cumulates the two aforementioned effects, indicating the relative modification of the net result (Δr_{NetR}) as an effect of the turnover's growth (Δr_{TO}):

$$TLE = TLC \times \Delta r_{TO} = \Delta r_{NetRt} (\%) \quad (3)$$

(One can observe that the result is the same as in the case of the financial leverage effect, only the influence factors are different).

where:

TLE – the total leverage effect,

TLC – the total leverage coefficient.

Case Study: ITC Corporation [3] (Dumitrean, 2012):

We take into account the following values calculated on the basis of the balance sheet of the entity:

$$\Delta rTO = 7\%$$

$$\text{ExplR}_1 = 12.500 \text{ thousand } \text{€}$$

$$\text{NetR}_1 = 7.500 \text{ thousand } \text{€}$$

$$\text{ELC} = 3,12$$

$$\text{FLC} = 2,15$$

$$\text{The result is: } \text{TLC} = \text{ELC} \times \text{FLC} = 3,12 \times 2,15 = 6,7 \quad (4)$$

$$\text{ELE} = \text{ELC} \times \Delta rTO = 3,12 \times 7\% = 21,84\% \quad (5)$$

$$\Delta r\text{ExplR} = (\text{ExplR}_2 / \text{ExplR}_1) \times 100\% - 100\% = 21,84\% \quad (6)$$

$$\text{The result is: } \text{ExplR}_2 = 121,84\% \times \text{ExplR}_1 = 1,2184 \times 12.500 = 15.230 \text{ thousand } \text{€} \quad (7)$$

$$\text{FLE} = \text{FLC} \times \Delta r\text{ExplR} = 2,15 \times 21,84\% = 46,96\% = \Delta r\text{NetR} \quad (8)$$

$$\Delta r\text{NetR} = (\text{NetR}_2 / \text{NetR}_1) \times 100\% - 100\% = 46,96\% \quad (9)$$

$$\text{The result is: } \text{NetR}_2 = 146,96\% \times \text{NetR}_1 = 1,4696 \times 7.500 = 11.022 \text{ thousand } \text{€} \quad (10)$$

The same result is obtained when calculating the total leverage effect:

$$\text{TLE} = \text{TLC} \times \Delta rTO = 6,7 \times 7\% = 46,9\% = \Delta r\text{NetR} \quad (11)$$

$$\Delta r\text{NetR} = (\text{NetR}_2 / \text{NetR}_1) \times 100\% - 100\% = 46,9\% \quad (12)$$

$$\text{The result is: } \text{NetR}_2 = 146,9\% \times \text{NetR}_1 = 1,469 \times 7.500 = 11.018 \text{ thousand } \text{€} \quad (13)$$

(the difference $11.022 - 11.018 = 4$ thousand € is due to the rounding up).

As a conclusion for this study:

The growth of the turnover by 7% will influence in a positive way (favourably) all the results by means of a chain of beneficent effects over the financial – economic performances of the enterprise.

This growth leads to the increase of the exploitation result with 21,84% and of the net result with 46,9%.

Based on the evolution thus evaluated (forecasted) in relation to the results, other forecasts that are related to the financial – economic decision may be drawn up.

CONCLUSIONS

The International Financial Reporting Standards [10] (IFRS – International Financial Reporting Standards 2009) are established in a manner that aims to encourage the users (beneficiaries) of the financial – accounting informations to make *forecasts*. IAS 1 – “The Presentation of Financial Statements” specifies that the information necessary to reach the financial statements’ objective, together with other information from the balance notes, help *the users of the financial – accounting informations to evaluate the future cash-flows of the enterpris, and, particularly, to evaluate the moment and the degree of certainty for generating the cash or its equivalents*.

The professional evaluation standards (EVS – Evaluation Standards 8.06 *Forecasts*) specifies that **the forecasts** must be made based on the *transparency principle*, so that the used theories, the judgements, the analysis and the economic shaping should be explicit and understood

by the client. The requests used to obtain an accurate forecast are divided, according to their type, as follows:

- *short-term forecasts*, that must be based on market information, on economic and market prospects;

- *long-term forecasts*, that must be based on all the appropriate (relevant) economic factors, according to the available knowledge, to the market's actual expectations and to the available economic and market data.

The forecasts in economy, in general and for the evaluation of an enterprise or business in particular, are being used in various cases, and, with the passage of time, this led to multiple concerns to create and develop some specific methods and techniques. The numerous forecasts offer the evaluator (evaluators) multiple alternatives of choice and, because of this, besides a good knowledge, it is also necessary to have a certain experience in this field in order to make forecasts as reliable (credible) as possible.

We consider that a correct forecast of sales (turnover) is vital for a long-term company success. Relevance of previously recorded data for forecasting future data depends on the stability of the enterprise's economic activity and the environment where it acts, stability which is influenced by the following factors [9] (Solomon and Dragomirescu, 2010): *volatility of growth rates*; *company's size*: because growth is measured as a percentage, firm's size should be taken into account – the increased size of the business makes more difficult to maintain high growth rates; *economic cycle*: if the company's activity is influenced by economic changes is essential choosing data analysis; estimating the growth rate during several economic cycles is required; *structural changes*: the growth rates recorded are the result of the policy mix adopted by the firm: investment policy, financing policy, dividend policy; All of these should be taken into consideration for predicting (forecasting) future evolutions.

In relation to the evaluation, the caution forces us to consider the fact that the forecasts are based on models that are simplified versions of reality (reality is too complex to be reduced to a simple mathematical model) and the fact that the available informations characterize only partially the phenomenon or the process analysed (investigated). In addition, even a complete information about the past and the present of the specific phenomenon should be issued, there is no certainty about the identification of all the new factors that can or will occur in the future and either about the intensity of these factors' activity. Even more, in conditions of financial – economic crisis, the forecasts play a less important role in relation to the evaluation because one can assume that the values/indicators obtained during the crisis will not repeat in the future, after the crisis is gone.

Further researches will include the use of spreadsheets (financial and prediction functions) for forecasting the possible short – term evolution of an entity (company), from a financial – accounting point of view.

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