IMPLEMENTATION OF CORPORATE VALUATION TECHNIQUES IN PRACTICE

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Abstract: *This paper focuses on the main tools and techniques of firm valuation. One of the objectives in this paper is to present the reasons for such differences in value across different models, and to help in choosing the right model for a specific task. In today's management literature there are a lot of evaluation models, which based on the different approaches. The most important dimensions in the evaluation are the past performance analysis, the current value of the firm based on the forecast period and the appraisal of future opportunities. Nowadays it is quite problematic that these concepts regarding the valuation methods used in practice are not homogeneous. In view of the major principles is equal, but the details are different. In this paper my goal is to categorize the methods in the right section and to demonstrate the characteristics, advantages and disadvantages as well. This study proceeds as follow. The first section classifies and categorizes the different valuation approaches, which are the ratios based on accounting data, the asset-based approach, the income-based approach within the discounted cash flow models and the value added methods, the relative valuation, at last the real options. The second part presents the main features and implementation of the methods. Finally, the third section concludes what might be learned from this study. Based on the related literature reviewed and my previous researches I conclude that, in the evaluation, the problem is not that there are not enough models to complete the task but on the contrary, the selection of the appropriate model is the first challenge in the work. The different approaches lead to significantly different values. The other main finding of this work that, professionals involved in the assessment task explained the reason for the differences, and selection the correct model which is the best fit for the job. Considering the models described below a best model cannot be identified. This study also concludes that selecting the applicable model depends on the current situation and characteristics of the company or assets.*

1. Introduction

Grouping and presentation of the company's valuation methods with regard to the literature is not uniform. In view of the major principles is equal, but the details are different. In this paper I write a single way I designed the different methods in which Rappaport (1998), Copeland et al (1999), Damodaran (2006), Ulbert (1997), Fónagy-Árva et al (2003) and Takács (2009) study build on.
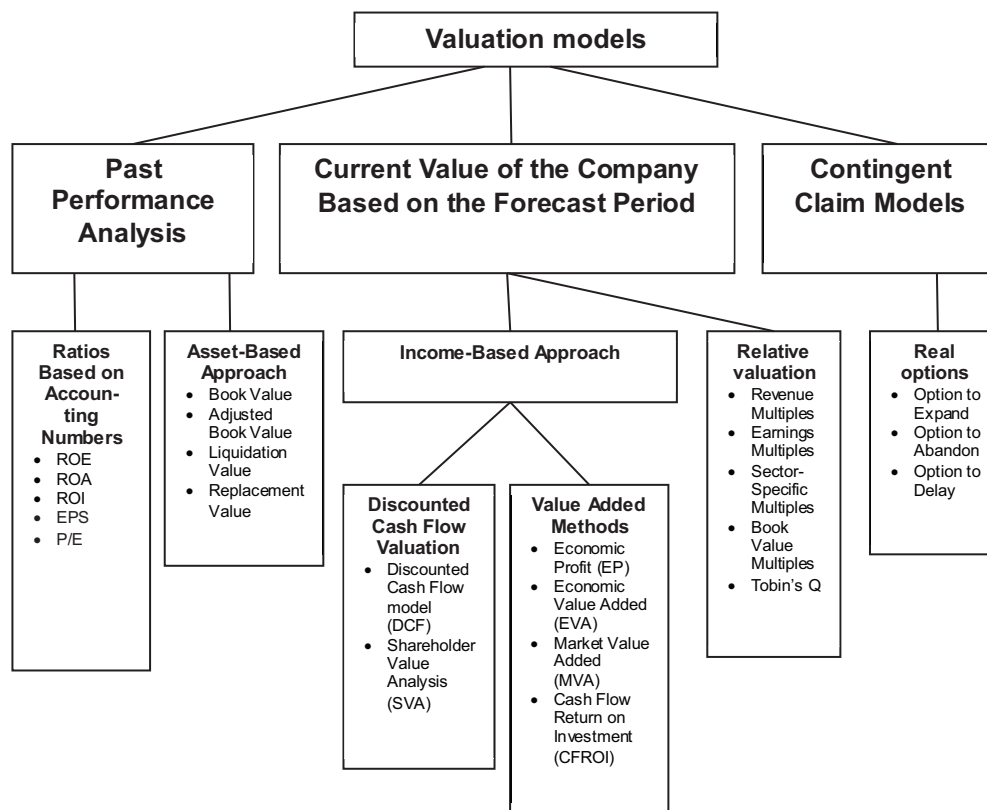
Figure 1: Valuation models
Source: edited by the author based on Rappaport (1998), Copeland et al. (1999: 135), Damodaran (2006: 1015), Ulbert (1997: 19-32), Fónagy-Árva et al. (2003: 383), Takács (2009: 15).

2. Ratios Based on Accounting Data

Accounting numbers provide a large amount of information and data for use in evaluation. Accounting is, however, oriented to the past, and does not aim to make predictions or determine the value of the company in the future, and thus cannot be called to account in this sense. The main goal of firm evaluation, on the other hand, is to estimate the value of a firm, and to build the predictions regarding the future into the value of the firm, with the help of forward-looking functions (Kozma, 2001).

The greatest advantage of the rates of earnings (ROA, ROE, ROI) lies in the fact that they are comprehensive, easy to determine and to understand, that the numbers have a value in themselves, and that the performance of different firms is directly comparable and can be used as a basic reference point. The main failing of the indicators, however, is that their maximums do not necessarily maximise the shareholder value and therefore cannot in themselves represent the basis for a decision (Anthony-Govindarajan, 2009: 289-312).

The accounting numbers, which concentrate mainly on profit, are not able to reliably measure the changes in the economic value of firms. Rappaport (1998: 13-31) believes that the reason for this is that different firms use different accounting procedures and leave the time value of money out of their calculations. This cannot be regarded as a failure. The problem rather lies in the fact that business managers in many cases only use these accounting indicators in their analyses (Black et al., 1999).

Copeland et al. (1999: 126) also come to the conclusion that the market possesses a long-term approach and cannot be tricked by accounting techniques. In strategic decisions the market behaves as if it were employing the DCF and not the accounting approach.

Economic analysts also conclude that there is a low correlation between the past accounting profit of a firm and the market exchange rate (Black et al., 1999).

Despite all these failings, for the accounting report the evaluation of the firm's value represents a good starting point, and can be profitably used in cases where the activities of the firm cease (cf. Pratt, 1992: 17).

3. Asset-Based Approach

According to the valuation of asset-based concept, the internal value of the firm can be analysed as the value of assets which appear in the material and non-material elements of the firm's property. This asset value can be acquired from the accounting information and it shows what value is represented by the property of a firm of a certain composition and age. It does not take into account the income-generating capacity of the element of the asset, nor does the valuation of the asset represent the object of the valuation of the immaterial property of the firm. The asset-based valuation concept can be understood in many ways; there are cost-approach asset valuations, asset valuations based on daily value principles, and adjusted asset valuations, and according to Takács (2009), there are also valuations based on book correction which eliminate the book errors. All four of these asset valuation procedures assume the continuous, undisturbed operation of the firm in an unchanged environment. This approach is useful in circumstances where future changes are difficult to predict, for example in times of economic crisis or high inflation (Ulbert, 1997).

4. Income-Based Approach

According to the income-based valuation concept the internal value of the firm is the result of the expected, future utilization of the asset element, given from the expected future cash flows. It does not take into account the division of the firm's assets according to age and composition, concentrating exclusively on the returns which can be predicted from their operation. The definition of return in the literature is not un-ambiguous. According to the classic conception return is equivalent to profit, in the case of the clash flow approach it is the same as cash flow, while in the shareholder approach it is the shareholder return, i.e. the dividend and the share-price appreciation (Ulbert, 1997).

An analysis of the two conceptions allows us to establish that while the conception of asset-based valuation is a past-oriented process, the income-based valuation conception can be considered as a future process, and that the former has become widespread in the Continental European school, while the later dominates in the Anglo-Saxon school. Neither of these conceptions is able on its own to provide a complete picture of market value, since this is affected by other factors such as market relations, market actors, liquidity etc. Both conceptions are necessary, and can be regarded as of equal value, neither being superior to the other (Ulbert, 1997).

In the income-based valuation conception we can include the discounted cash flow model and the value added type of procedures.

4.1. Discounted cash flow-based model

The basis of the discounted cash flow-based model is the present value rule, i.e. that the value of the asset is equal to the sum of the present value of its expected future cash flows.

From the perspective of the applied entity DCF model used by Copeland et al. (1999), in the case of investment decisions it is based on applied present value and the valuation

procedure described in Modigliani and Miller's (1961) article, since the value of the firm is the present value of the free cash flows created by the firm's current assets and guaranteed to the shareholders. The DCF model approach applies to the whole firm since the firm is in effect a combination of individual projects. Brealey and Myers (1999 II.: 449-450) also formulated in their conclusions that the concept of net present value is valid when applied to the whole firm, given that the shareholders entrust the management of the firm to directors who will maximise its net present value. Here, mention must be made of Modigliani and Miller's (1958), (1961), (1963) conclusion that if we take the future investment of the firm as given, then the value of existing shares will not be influenced by what sources are used to finance the investments, i.e. in a capital market efficiency neither the dividend policy, nor the capital structure has any influence on the shares and thus on the value of the firm.

The discount rate used for the free cash flow discount, and the weighted average cost of capital include all sources of alternative costs, taking into consideration their relative proportions. The weighted average cost of capital is what we use to help us find out the expected future cash flows. An important consideration when determining and applying this is that there should be harmony between the cash flow, the cost of capital, the capital structure and the evaluation. Copeland et al. (1999: 272-307) and Brealey and Myers (1999 I.: 421-451) discuss the WACC determining factors and their pitfalls.

In the framework of the WACC, determining the costs of the equity represents the most difficult task. The solution to this can be provided by using the dividend evaluation model and the CAPM model.

The shareholder value is given by the difference between the corporate value and the debt, where the corporate value is the sum of the total future free cash flows discounted with weighted average cost of capital and the residual value. The free cash flows appear in the period of the maintenance of competitive advantage, and we can consider them free in the sense that they can be divided among the shareholders.

The DCF method models the whole process of value generation, and also takes long term effects into account and discounts genuinely divisible free cash flows, and thus also builds risks into the model and so realises the conception of shareholder value.

Copeland et al. (1999: 61-64) justifiably describe this value, i.e. the discounted cash flows, as the best measure, because to determine this value requires that all value-creating factors be taken into consideration, which requires the leadership of the firm to be fully informed.

Takács (2009) also deals with the DCF model in his article, in which the free cash flow category which features in the Anglo-Saxon model is introduced into a Hungarian accounting environment.

Damodaran (2006: 10) considers the discounted cash flow-based evaluation to be the basis of all evaluation models which are used as the foundation of all other approaches. In order to be able to understand and to use both the relative and the option pricing models, we must begin with the DCF process.

Among the methods of firm valuation, Fernandez (2007) also favours the discounted cash flow valuation, considering it conceptually appropriate.

There are also certain limits in relation to the application of the discounted cash flow-based models. In the case of firms struggling with difficulties, this method cannot be applied, since it is difficult to predict future cash flows for firms with negative results and cash flows; there is also a risk of bankruptcy and so the principle of the continuity of operations can also be damaged.

When considering the weaknesses of the DCF method, Martin (1998) draws attention to the maximisation based exclusively on the absolute measure of cash flows and the false estimation of the size of the residual value. To correct this, the economic profit valuation would be the solution, which is also DCF-based, given that it clearly shows the contribution to the value of the firm in the given period, and eliminates the problem of residual value.

In his article in defence of the family of DCF models, Ulbert (2011) considers the method to be an accepted one despite its critics, and, with some preconditions, believes it appropriate for the evaluation of the SME sector, too. In terms of its practical application, we can say that it is no worse than any other future-oriented procedure.

4.2. Value Added Methods

4.2.1. Economic Profit Model

Economic profit for firms is the difference between the return and the cost of invested capital in the given period. The advantage of this type of definition is that it is easy to measure and it is linked to the creation of value, since it takes into account the alternative costs of invested capital.

While in the DCF model the value of the equity is equivalent to the business value of the firm, and the value of the debt must be deducted from this, according to the economic profit model, the value of the firm is equivalent to the sum of the invested capital and the present value of the expected results of the firm.

The value added methods consider the profit realised above expected return as the value creator, i.e. the present value of the surplus cash flow of this value must be added to the present value of the capital invested in assets when determining the value of the firm. So it is not the profit, but the profit above expected return which creates value (Copeland et al., 1999).

4.2.2. EVA (Economic Value Added) and MVA (Market Value Added)

The theoretical roots of EVA go back to the theses published by Modigliani and Miller (1958), (1961), and were successfully used by Jensen and Meckling (1976) in their principal agent theory and by Jensen (2001) in the enlightened stakeholder theory and the enlightened value maximisation.

According to Ehrbar (2000), one of the reasons for the popularity of the EVA used by Stern Stewart & Co is that the accounting information creates such a rich network of relationships that non-financial managers can also understand them easily.

Stewart (1999) uses the residual income expression for EVA, which means that the costs of the entire capital used by the firm are deducted from the accounting results. The capital costs used by EVA refer equally to the cost of equity and the cost of debt. While a firm cannot produce a return higher than capital costs, it will operate at a loss.

EVA is much more than a performance indicator, being the basis for a comprehensive financial management, decision-making, remuneration and incentive system, which also shows employees how they can create more value for the shareholders, for consumers and for themselves. In this sense, EVA emphasises the priority of the shareholder value, in such a way that the interests of other affected groups are also taken into account (Ehrbar, 2000: 24-25).

The difference between the total market value and the total capital invested in the company gives the market value added.

MVA is the present value of the total by which the expected level of the future return exceeds the capital costs in relation to the investors' expectations, or the extent to which it fails to meet these expectations. MVA is the sum of the current values of expected future EVAs.

MVA is the final measure of value creation, the accumulated total with which the shareholder value increases or decreases. It is also equivalent to estimations of a firm's present value, which are carried out by a capital market, and can be considered the values of a snapshot of a given period. It is precisely for this reason that the change which follows is more important from the perspective of the management's judgement than the absolute value itself.

Its limitations are that it cannot be used as a directional indicator for day-to-day decisions, and only in the case of open companies operating on the stock market can we calculate it; it cannot be determined on the level of firm units or divisions, only on the whole-firm level. EVA, which is closely related to MVA, manages to eliminate these limitations, and can follow these changes, and can be built into the firm's operations at a business unit-level.

Stern Stewart & Co regularly carry out MVA calculations for companies in the USA, and on this basis create a ranking, the Performance 1000, which in addition to MVA includes the firm's EVA and also the data relating to profitability and size (Stewart, 1999: 748-781).

Stern Stewart & Co conduct many empirical tests in relation to EVA and MVA, and consequently are able to explain a half of the changes occurring in EVA and MVA. This can be considered a genuinely successful result, because the share exchange rate is dependent on future expectations and there is no measurement of value which correlates perfectly with market values. Other tests they carry out, which also include an accounting correction adapted to changes, explain 70% of the changes in MVA (Stewart, 1999: 179-222).

Ehrbar (2000) sees another great advantage in the application of EVA, in that during the planning of the investment the division managers can manage capital rationally, and not consider it as an unlimited resource, but as something that is continually built in to the calculation of the return from the project.

In this sense, MVA is nothing more than an estimation of the firm's net present value, which is carried out by the capital market.

When discussing the criticisms of EVA and its possible abuse as an indicator, Damodaran (2006) mentions the following; if the performance of the managers is evaluated on the basis of the economic value added, then there will be a strong temptation to reduce the invested capital, which can lead to higher EVA.

4.2.3. CFROI (Cash Flow Return on Investment)

The CFROI is the company's existing investment in the internal rate of return, which if it exceeds the weighted average cost of capital, i.e. the minimum required return on invested capital, than value creation, otherwise value destruction.

5. Relative Valuation

The reality is that most valuations are relative valuations. The method is based on how similar assets are currently priced in the market. There are two components of the relative valuation. The first is that, to value assets on a relative basis, and any resemblance determined to the index, using a multiplier so that those revenues, earnings, book value and sector-specific multiples are converted into numbers. The second is to find similar firms, which is a very difficult to do since no two firms are same size and firms can still differ on risk, growth potential, and cash flows in the same industry as well. Therefore the basic task is to control this difference, when comparing a multiple across several firms, because they are the potential pitfalls of relative valuation (Damodaran, 2006: 609).

6. Real Options

Option pricing models can be used effectively in the evaluation of strategies as taking into account the decision alternatives. The option valuation previously applied only in the case of financial options, but has been extended to measure the value of assets that share option characteristics. These options are called real options. The fundamental premise behind the use of option pricing models is that the discounted cash flow models and the relative valuation understate the assets, that show the differences and just comes from the optional component.

The options are the features that the asset derive their from the values of other assets, the cash flows on the assets are contingent on the occurrence of certain events. (Damodaran, 2006: 88)

The real options embedded in the investments and thus the value of the company that owns it too. The kinds of the real options are the option to expand, the option to abandon and the option to delay.

Option pricing models show off option premium in the assessment based on the discounted cash flow and relative valuation models compared.

Damodaran (2006: 1027) highlights three factors, which warns us that it is not always possible to use the option pricing models and what to pay attention when using them.

1. The options are used sparingly.
2. Opportunities are not always options.
3. The options are not counted double in the assessment.

7. Conclusion

In the evaluation, the problem is not that there are not enough models to complete the task but on the contrary, the selection of the appropriate model is the first challenge in the work.

The different approaches lead to significantly different values. It may be the case that there are different results of estimates when a company valuation is based on the discounted cash flow model and the relative valuation at the same time.

Professionals involved in the assessment task explained the reason for the differences, and selection the correct model which is the best fit for the job.

Considering the models as described above a best model cannot be identified. This study also concludes that selecting the applicable model depends on the current situation and characteristics of the company or assets.

The DCF models are suitable for various plans, strategies, comparing the projects during the planning process, but to determine the current firm value is not the best method. The method makes it special is that it is excellent for business units separate analyzes, and so with mergers, acquisitions and sales very useful tool in part.

CFROI is the best method when it comes to portfolio decisions.

EVA is the most common methods. The original concept of EVA weakness is the being static, the focusing on profit. However, through the adjusting of the EVA has been eliminated the majority of these shortcomings, therefore being the basis for a comprehensive financial management, decision-making, remuneration and incentive system.

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