Business Valuation Based on Assets Replacement Cost

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Abstract

According to the established valuation practice, when valuing businesses (companies, business units and other retail assets) the income and market approaches are generally applied. The use of the cost approach is rather limited and is normally employed when valuing small companies (those that have not reached their breakeven point or those having little historic data) and holding groups. The article suggests modernization of the cost approach, aiming to broaden its scope of use through the integration of some income approach elements.

The article provides a description of this valuation technique, which the author calls Assets Replacement Cost Method (ARCM). It relies on the replacement concept, according to which the investor will not pay more for an asset than the total cost necessary to create an asset of equal utility, be it by means of acquisition or construction. This method is based on the cost approach and incorporates some elements of the income approach, which allows optimizing the strengths and weaknesses of both methods. From the author's point of view, this method can be classified as hybrid, similar to the Economic Value Added (EVA) and Edwards-Bell-Ohlson (EBO) valuation approaches.

1 Introduction

Cost approach (or Asset-based approach) to business valuation consists in identification of unrecorded assets of a company (they can be functional or non-functional) and in estimation of market value of all company's assets. When valuing the share of a company, the assets value is reduced by market value of the company's liabilities (which is adjusted by unrecorded liabilities in case of their identification).

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This interpretation of cost approach is established and commonly applied. When making a decision about final value of a company, the result obtained by this method is taken into consideration along with other valuation techniques. It seems to be correct and does not raise any doubt. However, the author judges important to take note of some factors. First, the cost approach considers the replacement cost of <u>all</u> existing assets and liabilities. Nonetheless, having opted for this valuation method, valuers are not always accurate in attributing an appropriate market value to the unrecorded assets. Some of them are not taken into account on the balance sheet due to the accounting system established in the company. Assets such as company's reputation, its staff qualification, developed professional network, perspective elaborations, leasing rights, etc. – are not recorded on the balance sheet even though they are certain to have value. The most general type of unrecorded assets is the company's network and market recognition (in other words, promotion costs). When concluding a deal, the parties generally reflect the value of such assets in the purchase price by adding a premium to the market value of the acquired company's net assets. This premium is known as goodwill. The goodwill's value depends on its "content": if in addition to the company's recorded assets, the parties (or the engaged valuer) have taken into account the majority of its unrecorded assets by estimating them as separate asset accounts, the goodwill will not have significant value. Otherwise, if only the recorded assets are estimated, the goodwill's value is likely to be more considerable. Second, it should be noticed that the asset-based approach implies only direct costs, while the business value is supposed to include the incremental costs as well. Moreover, their amount may represent a considerable value. One of the most obvious types of such costs is opportunity cost that appears when comparing the options of buying an existing successful business or starting a similar business from scratch. In other words, the weaknesses of the traditional cost approach (or asset-based approach) may be summed up as follows:

- It is not completely fair to assimilate the expenditure used to create or replace an asset with its value.
- In general, the totality of business assets cannot be created immediately, nor can the retail property be built at once. Thus, the replacement technique used under the traditional cost approach partially fails: the commonly applied method does not take into account the time factor, which is represented by the opportunity cost of investing over the period of assets replacement.

At the same time, the income approach has its own disadvantages:

- Many investors (potential and real acquirers of business and retail property) consider that they are ready to pay for the "smooth running of the machine that generates cash-flows" created by the prior or current owner of the business, while they are not likely to pay for the efforts needed to keep this "machine" running. In other words, they are not ready to pay for the value that will be created by the business buyer (its new owner). Hence, the business investors are not likely to pay for the long-term future returns, since, on their behalf, the creation of this value will depend on their own efforts.
- In practice, it is extremely complicated to produce a reasonable cash-flow forecast for very distant periods in future, or to get an idea of the participants' opinion about it, or simply that of one of the potential deal's parties (a buyer, an owner, or a valuer).

Therefore, we will try to modify the traditional cost approach by integrating in it some elements of the income approach, so that the newly obtained valuation technique could

incorporate the strengths of both cost and income approaches, as well as exclude their weaknesses.

As mentioned above, the business investors are not ready to pay for distant future returns, since, from their point of view, the creation of this value relies exclusively on their own efforts (those of new business owners). At the same time, they understand that the longer the period for which a retail asset generates value, the more expensive the asset is. Thereby, there must be a marginal value that the retail asset investor is ready to pay:

- This amount is related to the business assets value (the replaced ones), as well as to a premium, the nature of which is similar to the opportunity cost, applied by real estate valuers under the cost approach.
- The excess of value that occurs between the business's discounted cash-flow and the net market value of its assets, estimated under the cost approach, plus the premium mentioned above, will not make the potential investors ready to pay for it.

Therefore, we suggest to take into account the factors that in general are not included under the traditional cost approach:

- Lost benefit equivalent (opportunity cost component)
- Value of business network and market recognition
- Value of eliminated startup risk

As a result, this business valuation technique will be called assets replacement cost method (ARCM).

2 Replacement Concept under the Cost Approach

The cost approach (the asset-based approach) relies on the replacement concept: if the cost of creating an object by one's means is lower than the price demanded by its seller (the object's owner), then one should do so - create this object[2]. On the contrary, if the costs of creating the object are more significant than its selling price or if its creation is impossible for any reason, then this object should be bought on the market. This concept overlooks at least one factor: the opportunity cost. The cost approach to business valuation takes into account the time factor when revaluating the assets and liabilities by adjusting them to market value. However, if the potential buyer, guided by the replacement concept, decides to start a business on his own, he or she will not only spend the direct costs associated with the assets market price, but the opportunity cost as well: during the startup phase, the investor will not generate revenues that he could have obtained if he had bought an existing business. In addition, one should take into account the specific risks of startup companies failing to enter the market: having acquired an established business, its new owner eliminates the risks of startup stage.

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[2]According to the IVS Framework (paragraph 63, International Valuation Standards 2011) : *"The cost approach provides an indication of value using the economic principle that a buyer will pay no more for an asset than the cost to obtain an asset of equal utility, whether by purchase or by construction".*

3 Valuation Model under Assets Replacement Cost Method

Taking into account all mentioned above, the adjusted value of existing business, obtained under the cost approach is calculated as follows:

$$V = MVA + G_c + LBE + RP \tag{1}$$

V - Value of the existing business.

MVA – Market value of tangible and identifiable intangible assets (net assets) defined under the cost approach.

G_c – Adjusted cost of developing business network and market recognition (promotion costs).

LBE – Lost benefit equivalent, a kind of opportunity cost that occurs during the startup stage of a new business: benefits that the investor does not receive having decided to start a business from scratch rather than acquire a company already generating returns.

RP – Value of eliminated startup risk (excess of budgeted expenses, high probability of losing a part of invested capital or its total amount).

It should be noted that the business value definition showed above (1) implies that a company generates positive returns. If the business has just been created and does not generate any profit, then it makes little difference to a potential investor whether to buy such a business or to start it from scratch. Therefore, in this case, the value of two last components (LBE and RP) will be near zero.

As these two components are of a greater interest, let us study them in detail.

3.1 Valuing the Lost Benefit Equivalent (LBE)

In general, the lost benefit equivalent (LBE) is calculated the following way:

$$LBE = NPV_{PRB} - NPV_{PNB} \tag{2}$$

LBE – Lost benefit equivalent.

NPV_{PRB} – Net present value of the existing business (over the period of its assets replacement) with a return on capital ROC and annual sales S_b.

NPV_{PNB} – Net present value of a new business, similar to the existing one, calculated over the period during which the existing (valued) business's assets are being replaced.

The process of developing a business from scratch until a certain stage falls into different phases:

1. Registration of a company and assets acquisition.
2. Recruitment and staff training (up to the first sales).
3. Break-even point achievement.
4. Expected sales achievement.
5. Expected return on capital (ROC) achievement.

For simplicity's sake, we will divide this process into two stages: the stage of zero profit (t_0, t_1) and the stage where the profit increases from zero up to the expected level of return (t_1, t_2)[3]. Accordingly, the lost benefit equivalent is calculated as follows:

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[3]The level of return corresponding to the existing (valued) business.

$$LBE = NPV_{PRB} - NPV_{PNB} =$$

$$\left[-MVA + ROC \times BVA \times \sum_{i=1}^{t2} \frac{(1+g)^i}{(1+r)^{i-0,5}} \right] -$$

$$\left[k \times ROC_m \times MVA \times \sum_{i=t1+1}^{t2} \frac{1}{(1+r)^{i-0,5}} \right] +$$

$$\left[\begin{array}{l} \dfrac{E_1}{t_1 - t_0} \times \sum_{i=1}^{t1} \dfrac{1}{(1+r_f)^{i-0,5}} + \\[2ex] \dfrac{E_2}{t_2 - t_1} \times \sum_{i=t1+1}^{t2} \dfrac{1}{(1+r_f)^{i-0,5}} + G_c \end{array} \right]$$

$$(3)$$

LBE – Lost benefit equivalent.

NPV_{PRB} – Net present value of the existing business (over the period of its assets replacement) with a return on capital *ROC* and annual sales S_b.

NPV_{PNB} – Net present value of a new business, similar to the existing one, calculated over the period during which the existing (valued) business's assets are being replaced).

BVA – Book value of the existing (valued) company's assets.

g – Expected growth rate of the existing company's profit.

E_1 – Total expenses required during the first stage (t_0, t_1) when creating a business from scratch.

E_2 – Total expenses required during the second stage (t_1, t_2) when creating a business from scratch. Where $E_1 + E_2 = MVA + G_c$ *(before inflation)*.

ROC – Expected return on capital of the existing business.

k – Degree of achievement of the expected return, $0 < k < 1$.

ROC_m – Intermediary (compared to the expected one) level of return on capital (t_1, t_2), calculated on market basis: $ROC_m = ROC \times BVA/MVA$.

r – Discount rate of expected cash-flow.

r_f – Risk-free rate.

t_1 – Expected point of time at which the company starts to make profit.

t_2 – Expected point of time at which the company achieves the required level of return, that of the existing (valued) business.

If the company is expected to reach its break-even point immediately after its creation (for instance, during the first year after opening its first factory[4]), the lost benefit equivalent can be estimated as follows:

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[4]Therefore, the entire cycle of starting a business from scratch represents only one phase – the one with zero profit (t_0, t_1).

$$LBE = NPV_{PRB} - NPV_{PNB} = \left[-MVA + ROC \times BVA \times \sum_{i=1}^{t_1} \frac{(1+g)^i}{(1+r)^{i-0,5}} \right] +$$

$$\left[\frac{E}{t_1 - t_0} \times \sum_{i=1}^{t_1} \frac{1}{(1+r_f)^{i-o,5}} + G_c \right] \tag{4}$$

E – Total expenses on acquisition and setup of assets with market value MVA[5].

In general, the LBE component can be calculated by other methods, different from those presented in (3)-(4)[6]. The only common condition for all of them is the second one (2) : one should always estimate the difference between the NPV of the existing (valued) business and the one that is obtained when starting a new business from scratch, both calculated over the period of the existing business's assets replacement.

One should notice that, according to the point (8 – see below), the G component is estimated separately for the expression (1) only when it is not used in the LBE estimation in the expressions (3)-(4).

3.2 Valuing the Eliminated Startup Risks Component (RP)

According to the cost-approach, the RP component means the possibility of additional unexpected expenses specific to the startup companies (including the LBE which occurs if the company faces delays in achieving some sub-stages in its development). From the author's point of view, the RP component can be estimated in two different ways. First, one may be guided by the risk premium of investing into small businesses, given the fact that the startups are usually small companies. Second, one may estimate the difference in the bankruptcy statistics between the startups and the companies with an average market lifetime, from its creation to the current moment. Having obtained the differential expressing these bankruptcy probabilities, one should transform it into a relative risk premium (additional risk premium reflecting only the specific startup risk) and define its absolute value.

One of possible ways to calculate the startups risk, according to the author, can be the following:

$$RP = \frac{CF_1 \times \Delta pr}{(r-g)(r-g+\Delta pr)} \tag{5}$$

CF_1 – Net cash-flow expected in the first period.
r – Discount rate that takes into account the risks of the sector where the existing (valued) business operates.
g – Expected perpetual growth rate of cash-flows.
Δpr – Difference between the risk premiums of investing into the existing company and creating a new one.

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[5]All other designations correspond to those defined in the expressions (3)-(4).
[6]In addition to achieving the expected level of return, the expected level of sales is required. In order to determine the period necessary to meet the corresponding level of commercial efficiency and the activity's scale, one may be guided by the criterion (9) defined in the next section.

$$\Delta pr = \frac{(p_n - p_m)(1 + r_f)}{1 - (p_n - p_m)}$$

(6^7)

r_f – Risk-free rate.
P_n – Bankruptcy probability of a new business.
P_m – Bankruptcy probability of the existing business.

However, the expression (5) reflects the maximum possible startup risk – the one that would be possible if the company ran these excessive risks for a lifetime. Nevertheless, the name of this type of risks (startup risk) reveals that the period of its estimation should be limited. Thus, in order to obtain a realistic estimation of startup risk, instead of the expression (5), one should apply the following technique:

$$RP = \frac{CF_1}{(1+r)^{0,5}} + \frac{CF_2}{(1+r)^{1,5}} + ... + \frac{CF_k}{(1+r)^{k-0,5}} - \frac{CF_1}{(1+r+\Delta pr_b)^{0,5}} - ...$$

$$- \frac{CF_k}{(1+r+\Delta pr_b)\cdot(1+r+\Delta pr_i)...(1+r+\Delta pr_e)^{0,5}}$$

(7)

Δpr_b – Maximum value of Δpr at the company's start.
Δpr_i – Intermediary value of Δpr at the transitional phase of business evolution ($\Delta pr_e < \Delta pr_i < \Delta pr_b$).
Δpr_e – Minimum value of Δpr at the end (the last sub-stage) of the business development (as soon as this phase is over, this component equals zero).

3.3 Valuing the Promotion Cost Component (Gc)

One way to value the promotion cost (G_c component in the expression (1)) is to interview the marketing and PR experts. They can provide an expert conclusion on how much time and money a company needs to develop its professional network from scratch, up to a certain number of contacts (that one of the valued company), in order to strengthen its recognition both in the market and among its target clients; as well as to study thoroughly its products market and consumers. If these expenses are spread over time and the company operates in a region with strong inflation, then the promotion costs should be indexed. At the same time, since not every promotion investment is efficient, and because they devalue a lot due to the market noise and the "consumers' short-term memory", the promotion costs should be depreciated. Such adjustments as indexation and depreciation partly neutralize one another. However, in absence of hyperinflation, the effect of depreciation is much more significant than that of inflation. The total adjusted amount of expenses on development of strong recognition, business network and reputation of the

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[7]This expression allows to obtain the maximum value of the risk premium difference which occurs at the start-up stage. As the business matures, this difference is decreasing, and completely disappears as the final stage of the company's development is over.

valued company could be considered as partial[8] estimation of the goodwill[9], defined under the cost approach. And this amount should be therefore added to the value of other company's assets.

The value of G_c component, which is the adjusted cost of business network and market recognition, can be calculated as total discounted amount of corresponding costs over the period of business maturing:

$$G_c = \sum_{i=t_0}^{t} \frac{C_i}{(1+r_f)^i} \tag{8}$$

C – Company's promotion costs in the year i of its development.
t_0 – First year of company's development.
t – Last year of company's development.
r_f – Risk-free rate.

One should notice that, according to the point (8), the G component is estimated separately for the expression (1) only when it is not used in the LBE estimation in the expressions (3)-(4).

3.4 Recommendations for defining a Period Necessary for creating a Similar Business from Scratch

In order to determine the period required to start a business from scratch, as well as the period necessary for developing this hypothetic business up to a similar stage as the valued one (or similar assets), one should study its products market, the aspects of organization and launch corresponding to this kind of business.

In addition to achieving the expected level of return, it is necessary to meet the expected sales. In order to define the period necessary to reach the expected level of commercial efficiency and the activity's scale, one may use the following criterion. This period should correspond to the point of time (from the moment of company's creation) at which this condition is met:

$$\frac{ROC_e}{ROC_b} + \frac{S_e}{S_b} = 2 \tag{9}$$

ROC_e – Expected return on capital of a newly created business at a certain point of time.
ROC_b – Return on capital of the valued business at the valuation date.
S_e – Expected sales of a newly created business.
S_b – Real sales of the valued business at a certain moment of time.

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[8]This estimation is partial since, as it will be shown later, the notion of goodwill which is interpreted as difference between the company's value and the total value of its separate identifiable asset accounts (net assets), is much broader than simply the cost of business development.

[9]If this interpretation of goodwill seems incorrect, and it definitely does not correspond to the one determined by the International Valuation Standards (IVS), the notion of "promotion cost" may be applied.

4 Case: Applying the Assets Replacement Cost Method

Let us study an example of applying the assets replacement cost method.

A business is on sale. The book value of its assets is CU25m. The market value of its identifiable assets is CU40m. The company's return on capital is 30%. The net operational cash-flow expected for the coming year is CU7,875m, after which it will increase annually by 5% per year.

It is known that the development of a similar business from scratch will take 3 years. One year will be occupied in buildings construction and equipment's setup (the total cost of which is CU25m). Two years will be spent to set up technological process and to acquire the market share needed to provide the expected level of machines' capacity, or, in over words, to meet the required return on capital of 30%. In addition, an extra cost necessary to reach the existing level of market recognition is 5mCU. Consequently, at the second phase (2nd- 3rd years), the cost of "solid" assets is expected to reach CU15m, while CU5m will be spent on company's promotion. The return required by investors for similar projects is 15%, while the risk-free rate is 5%. Besides, the business risk of newly created companies during the first three years of their development is twice greater than that of mature companies[10].

Let us value this business according to the model presented here above. We assume that the company's return at the second phase increases on a linear basis. Accordingly, we suppose that an average return at the second stage (t_1, t_2) constitutes 50% of the expected level (k = 0,5), i.e. 15%.

In case of starting a business from scratch (according to the replacement concept under the cost-approach), in addition to the cost of recorded in balance sheet assets (market price of which is CU40m), the investor will have to spend CU5m on his or her business promotion and "lose" the benefit he would have generated if he had bought the existing business. In addition, one should not neglect different risks specific to the startup stage of business development.

In order to estimate the lost benefit equivalent, let us first transform the book value of the company's ROC into its market value: $ROC_m = 0,3 \times 25/40 = 0,1875$. Thus, according to the expression (3), the LBE is estimated as follows:

$$LBE = \left[-40 + 0,3 \times 25 \times \sum_{i=1}^{3} \frac{(1+0,05)^i}{(1+0,15)^{i-0,5}} \right] -$$

$$\left[0,5 \times 0,1875 \times 40 \times \sum_{i=2}^{3} \frac{1}{(1+0,15)^{i-0,5}} - \frac{25}{1-0} \times \sum_{i=1}^{1} \frac{1}{(1+0,05)^{i-o,5}} - \frac{15+5}{3-1} \times \sum_{i=2}^{3} \frac{1}{(1+0,05)^{i-o,5}} \right] = 17,02$$

Given the fact that the promotion cost is directly included into the LBE, we will not need to add the Gc component in the expression (1).

Approximately (without taking into account the liquidity risk), the business risk can be estimated as the bankruptcy risk, adjusted by a premium reflecting the market's opinion about the company's level of risk [3].

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[10]The notion of risk used here corresponds to the probability of unfavorable outcomes, implying total loss of investment (a partial loss will increase the probability of unfavorable outcomes, therefore the expected damage in case of different scale of loss remains unchanged).

$$pr_d = \frac{p_d k(1+r_f)}{1 - p_d k} \tag{10}$$

pr_d – Bankruptcy risk premium.
p_d – Bankruptcy probability.
k – Level of default (% of loss in case of default).
r_f – Risk-free rate.
According to the expression (10), if k = 1 (in case of total loss after default), the market estimation of default probability for similar businesses is calculated as follows (component p_m in the expression (6)):

$$p_d = \frac{pr_d}{1 + r_f + pr_d} = \frac{pr_d}{1+r} = \frac{0{,}15 - 0{,}05}{1{,}15} = 0{,}087 = 8{,}7\%. \tag{11}$$

As mentioned above, the business risk of newly created companies is supposed to be twice greater than the risk of similar mature ones. Therefore, the p_n component is 17,4%. The maximum level of startup risk is estimated as follows:

$$\Delta pr_{max} = \frac{(0{,}174 - 0{,}087)(1 + 0{,}05)}{1 - 0{,}174 + 0{,}087} = 0{,}10.$$

Let us suppose that this risk premium will be decreasing on a linear basis during the first three-year period of business development. Hence, its value in one year will decrease by one-third of the total (0,067), in two years - by two-thirds (0,033), and in three years it will reach zero. Then, according to the expression (7), the startup risk would be, in CUm:

$$RP = \frac{7{,}875}{(1+0{,}15)^{0{,}5}} + \frac{7{,}875}{(1+0{,}15)^{1{,}5}} + \frac{7{,}875}{(1+0{,}15)^{2{,}5}} -$$

$$- \frac{7{,}875}{(1+0{,}15+0{,}1)^{0{,}5}} - \frac{7{,}875}{(1+0{,}15+0{,}1)(1+0{,}15+0{,}067)^{0{,}5}} -$$

$$- \frac{7{,}875}{(1+0{,}15+0{,}1)(1+0{,}15+0{,}067)(1+0{,}15+0{,}033)^{0{,}5}} = 1{,}78.$$

The final value of the business according to the expression (1) will be, in CUm:

$$V = 40 + 17{,}02 + 1{,}78 = 58{,}8$$

Let us value this business according to the dividend discount model. In order to provide the expected growth rate of 5%, in absence of debt, a company should invest a certain part of its profits into its development. Since the growth rate is in direct proportion with the

level of return and invested capital share (g = ROIC * invested capital share[11]), the company's value according to the Gordon model[12] is:

$$V_G = \frac{7,875 \times 0,73 \times (1+0,15)^{0,5}}{0,15-0,05} = 61,92 \,(\text{CUm})$$

As one can deduct from the shown above evaluation techniques, the result obtained by the assets replacement cost method is much closer to the result under the income approach, than that one of the classic cost-based approach (CU40-45m), because it better reflects the real costs of business from the point of view of assets replacement concept. The lesson learnt from this case is that the realistic estimation of assets replacement cost of an existing business inevitably requires to take into account some additional factors, which are not included under the traditional interpretation of the adjusted net assets method. Consequently, the real value of the business described in the case (with a positive evolution trend) should not be simply an estimation of its assets (CU40-45m), but a much more significant value of CU58m.

5 Conclusion

The valuation approach defined above is similar to the EBO and EVA methods: all of them are based on two main components: capital (or invested capital) and revenue[13]. However, unlike the EBO and EVA, the assets replacement cost method allows to avoid the main disadvantage of all income approaches: the necessity of long-term forecasting and terminal value definition. Under the assets replacement cost method, the forecast period is limited to the time necessary to replace the assets of the valued business (the period defined before (t_0, t_1)). The principle of limited cash-flow forecast is supported by the method's structure (ARCM) and is associated with the particularity of the assets replacement concept.

As a result of this study, one may conclude that the traditional cost approach used in business valuation is not completely appropriate, since it overlooks a set of dynamic characteristics of business: for some companies one of the most important indicators that should not be neglected is opportunity cost (for capital-intensive companies, for example), for others - all of the mentioned above components: lost benefit equivalent, promotion costs, and startup risk premium (a typical example – consulting and art gallery business). This judgment is supported by the international valuation standards thesis (C13 IVS 200 "Businesses and Business Interests" [1]), according to which *the market and the income approaches described in the IVS Framework can be applied to the valuation of a business*

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[11]Where the part of cash-flow withdrawn from the business is: 1 – invested capital share = 1 – g/ROIC = 1 – 0,27 = 0,73.

[12]The calculations are based on the assumption that all future cash-flows will be uniform

[13]Put this way, these methods can be considered as hybrid, incorporating the elements of both cost and income approaches. Consequently, when applying one of them in business valuation, their results should not be "mixed" with those obtained under the same approach (for example, the income one). On the contrary, the result of these techniques should be studied along with all other methods used in valuation, when making a decision about a company's final value.

or business interest. The cost approach cannot normally be applied except in the case of early stage or start-up businesses where profits and/or cash flow cannot be reliably determined and adequate market information is available on the entity's assets".

In addition, taking into account the fact that this method incorporates some income approach elements, it can be used to value both companies and company's shares[14].

Another conclusion is that the result obtained under this method will correspond to the top limit market value of a business, since, even if other valuation techniques (under income or market approaches) estimate that this company is worth a more significant value, a rational investor (its potential buyer) will prefer a price below the total cost needed to start a business similar to the proposed one. Thus, when making a decision about the business's final value, one should consider the income and market approaches only if they propose a result which is below or equal to the one obtained by the assets replacement cost method.

Finally, the LBE, RP and Gc components can be considered as goodwill[15] elements that one can use to adjust the value obtained under traditional cost approach when valuing existing businesses.

References

[1]   International Valuation Standards Council, International Valuation Standards, Norwich: Page Bros., (2011)
[2]   Yu. V. Kozyr, Elements and Principles of Business Valuation, Lambert Academic Publishing GmbH, Saarbrucken, (2012).
[3]   Yu.V. Kozyr, The Interest Rate Algebra, World Applied Science Journal **28** (Economic, Finance and Management Outlooks), (2013), 222-231.

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[14]In general, the result obtained by this valuation method, represents the top limit of company's market value.
[15]Which should be interpreted according to the International Valuation Standards (IVS), rather than by the International Financial Reporting Standards (IFRS).