DETERMINING CARRYING AMOUNT OF INTANGIBLE ASSETSS USING MODIFIED INCOME-BASED AND ASSETS-BASED VALUATION METHOD DIFFERENCE

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Abstract: Company assets are classified into financial, tangible, and intangible. In particular, valuation of intangible assets is a demanding task for companies, although in certain cases, the obligation of assets valuation is imposed by law in the Czech Republic. Professional literature related to intangible assets valuation was analysed. The objective of the paper is to determine the carrying amount of intangible assetss through the application of modified method for its valuation with regard to the nature of the assets structure of the model association XYZ. The resulting value of intangible assets was determined based on the difference of assets-based and income-based valuation methods.

Keywords: intangible assetss, assets-based valuation method, income-based valuation method, DCF, carrying amount, association.

1 Introduction

In the field of expert activities, experts often encounter the issue of business valuation for various reasons. One of the common causes of the necessity of business valuation is the transformation of its legal form of business. In any case of the transformation of business legal form, the existing entity is required to carry out the valuation of its assets, which will enter into the newly established company with a different legal form, thus representing initial accounting positions of the individual assets items (Rowland et al., 2019; Mareček, Horák, and Hejda, 2019). In the Czech Republic, this obligation arises under the Accounting Act (Czech Republic, 1991).

This paper will be focused on the transformation of the legal form of business of a model association of two natural persons into a limited liability company (LLC), which has legal personality. The model association XYZ operates in the manufacturing industry and is focused on B2B (business to business) market, which can be characterized as business between two legal persons characterized by high volumes and lower supply heterogeneity compared to B2C (business to consumer) market where business relationships between trading companies and final customers through a wider offering portfolio. The valuation of the model association XYZ will be carried out as of 31 December 2017, when the activity of the model association XYZ will be terminated in its existing form and will start its operation in the market as a LLC.

In terms of the type of assets, the assets invested in the newly established company are classified as financial, tangible, and intangible.

The objective of the paper is to determine the carrying amount of intangible assets through the application of selected modified method for its valuation with regard to the nature of the assets structure of a model association XYZ.

2 Literature Research

In the case of establishing an association of two or more persons, on the basis of the Civil Code (Czech Republic, 2012), its members are obliged to determine the internal relations of the individual members of the association by a contractual agreement.

An association or any form of a business with or without a legal personality may feel the need for transformation for many reasons. One of the reasons may be business sustainability as a whole (Hašková et al., 2019). Loranzo (2013) dealt with the identification of companies´ individual problems that may hinder their development or are directly responsible when a company ceases to exist. On the basis of the identification of such problems, the author claims that in certain cases, companies have to change their internal and external structure in order to survive in the current market and to eliminate or at least reduce the problems they suffer from.

In the Czech Republic, the transformation of the association into a limited liability company imposes the obligation to determine the carrying amount of the input assets entering into the newly established limited liability company on the basis of the law (Czech Republic, 1991).

This obligation is not subject to a change of the existing business model the company uses for its operation, e.g. B2B or B2C market. According to Lilien (2016), these types of markets are not paid sufficient attention to in the form of scientific research. Both types of market have high potential for generating valuable academic contributions. It is very important for B2B companies to maintain their brand as it only may help potential customers know this complex and complicated market. Brand also helps customers in the decision-making process of purchasing goods and services (Davis, Golicic, and Marquardt, 2008). Sila (2013) also adds that both B2B and B2C markets have been influenced by digitalization and e-commerce for several years. In this case, these markets are designated B2B EC and B2C EC (electronic commerce).

Assets valuation is regulated by the Act on Valuation of Property and on the Amendment of some other Acts (Property Valuation Act) (Czech Republic, 1997). Pursuant to this Act, assets and services are valued at normal price, if not stipulated otherwise by this Act. For the purposes of this Act, normal price is the price that would be achieved by selling the same or similar property or providing the same or similar services in the ordinary course of business in the Czech Republic on the valuation date when considering all circumstances that could influence the price but excluding the effects of extraordinary circumstances on the market, personal situation of the seller of buyer, or pretium affectionis. This regulation also applies to the value of intangible assets. According to Svačina (2010), intangible assets include also copyrights, related work, software, and databases. Penman (2009) states that the company accounting is often criticized for the absence of items constituting its intangible assets in the balance sheet although intangible assets value can be determined based on the profit and loss account. Wyatt and Abernerthy (2008) dealt with financial reporting of intangible investments. However, investments in the company intangible assets can also harm the reputation of the company, thus reducing its overall value. It is very important to understand the way the company intangible assets influences its value and find the best method for its valuation. According to Generally Accepted Accounting Principles (GAAP), it is required to enter the company intangible assets in its financial statements immediately after its creation (Ježková et al., 2020). Banker et al. (2019) points to the fact that intangible assets create a value for business in the future. Therefore, its immediate valuation is impossible and its value cannot be correctly estimated and thus enter in the company financial statements. According to Dischinger and Riedel (2011), company´s intangible assets are an easy tool to transfer assets between subsidiaries due to lack of transparency of the internal valuation processes of such transfers. If intangible assets are transferred from the company, such a company is bound by a lower tax duty to the state. This is emphasized by the fact that the lower the corporate income tax rate, the higher the amount of its intangible assets is (Vochozka, Rowland, and Šuleř, 2019). According to Ittner (2008), in the field of business performance measuring, there are many discussions whether it is possible to measure the business economic performance using internal measuring of intangible assets. However, in many cases, the value of intangible assets is determined by the price movements of individual commodities the given company cannot influence

in any way (oil, etc.) (Hašková et al., 2020). Wang, Zhang, and Ouyang (2009) investigated whether advertising of a company can be included in its intangible assets. Therefore, they proposed a methodology for determining long-term advertising performance and suggested several methods of how individual companies can create their own equity through advertising. According to Marrocu, Paci, and Pontis (2012), competitive advantage of companies is dependent on intangible assets. Therefore, they point out the importance of policies aimed at the accumulation of intangible assets within a company. Axtle-Ortiz (2013) investigated the perception of coroporate intangible assets on the basis of the geographical area in which a company operates. According to the author, the parameters such as geographical area, sector, and size of organization are statistically important factors influencing the characteristics of intangible assets.

The following part of the scientific literature analysis will deal with the individual methods of business intangible assets valuation and valuation of selected intangible assetss of a business.

Pakosta, Činčalová, and Pátek (2017) dealt with the use of individual methods for determining business intangible assets value. A total of three methods of business intangible assets valuation were used. According to the authors, the best method of intangible assets valuation is the method of licence analogy. Ficco (2018) presents several models for the valuation of intangible assets. These models are based on the Ohlson model, which was published in 1995. These models can also be used for the stock valuation on the stock markets. Lu and Lin (2016) used data-mining for the identification of the factors influencing the creation of intangible assets and thus the share on the overall business value. Three methods were used: a decision tree, association rule method, and the method of genetic algorithms, where the decision tree method showed the highest explanatory value with the minimum error of first and second type. This was confirmed also by Tsai, Lu, and Yen (2012), who used a total of five methods, namely the principal component analysis method, stepwise regression, decision tree method, association rule method, and the method of genetic algorithms. In order to determine the most suitable method of intangible assets valuation, artificial multilayer neural networks (MLP) were used. Artificial neural networks were used to determine a comprehensive method for evaluation by Horák et al. (2020). According to Honková (2017), one of the methods for determining the value of business intangible assets showing significal statistical resutls is the method of discounted cash flows method (DCF). It is a difference between the DCF result and equity.

Since corporate intangible assets consisting of know-how have a major impact on the creation of a company business value, Hanafizadeh, Hosseinioun, and Khedmatgozar (2015) dealt with the valuation of corporate business models as a set containing all intangible asset of the company. Know-how is also referred to as "intellectual property", which a more popular designation. It consists of three parts: human capital, structural capital, and relational capital (Pastor et al., 2017). Sanchez-Segura et al. (2014) argue that the value of corporate intangible assets shall be determined based on its contribution to the achievement of business objectives, not on the basis of its volume.

3 Materials and Methods

For the purposes of this contribution, the model association XYZ, this is in the process of the transformation of its business form, provided all past accounting data representing its accounting status, along with the list of all tangible assets, which will be subsequently transferred into the newly established business entity (LLC), and which will represent its initial accounting status. The transformation of the legal form of the model association XYZ will not change its main business. Therefore, its inventories, low-value tangible assets, financial assets, receivables, payables will be values, and the value of the

intangible assets the association XYZ created over the period of its existence on the market will be determined.

First, there will be assessed the development of the Industrial Production Index in the Czech Republic on the basis of the data from the Czech Statistical Office (CSO). Next, the financial health of the model association XYZ will be assessed. Subsequently, all items representing the initial inputs in the newly established company will be valued using asset-based and income-based methods. Finally, the value of intangible components of business, which is one of the inputs into the newly established LLC, will be determined using the difference of the values of the model association XYZ determined by means of the valuation methods used.

Quarterly data on the Industrial Production Index will be obtained from the CSO. Based on the time series of the data obtained, a graph will be created (see Figure 2) that will show the gradual development of this index over time. On the basis of this development, it will be possible to determine more precisely the current trend of the development of the whole industry and then the overall financial health of the model association XYZ, whose intangible assets are the subject of the valuation.

After that, selected accounting indicators for the period of the last five years preceding the date of the valuation, that is, 2012–2017 will be analysed. Using this analysis and considering the development trend of the whole industry, the overall financial health of the given model association XYZ will be assessed. Within the financial analysis of the model association XYZ, the difference of revenue and expenditure items will be carried out. The input data for determining the overall financial health of the association XYZ are given in Table 1.

Table 1: Selected accounting indicators of the model association XYZ between 2012 – 2017 (v CZK)

Accounting period	2012	2013	2014	2015	2016	2017
Revenues	3,782,922	3,827,332	4,651,051	5,800,337	7,288,916	3,782,922
Expenditure	3,336,552	3,475,784	4,329,146	5,506,796	6,081,950	3,336,552
Tangible assetss	365,236	331,190	298,938	268,478	690,427	365,236
Cash in hand	0	0	0	0	0	0
Cash on current account	0	0	0	0	0	0
Inventories	645,283	631,098	694,339	663,785	799,882	645,283
Payables	464,267	589,582	576,919	766,297	541,166	464,267
Other assets	0	0	0	0	0	0
Liabilities including credits and loans	352,204	498,938	91,975	32,153	417,811	352,204
Reserves	0	0	0	0	0	0
Wages	878,058	629,813	634,811	701,431	928,500	878,058
Depreciation	0	34,044	32,252	30,460	141,323	0

Source: Authors.

After assessing the overall financial health of the model association XYZ, the value of its inventories, low-value tangible assets, financial assets, receivables and liabilities will be determined using the asset-based valuation method.

The inventories of the association XYZ will be valued on the basis of the purchasing cost specified in the list of inventories. For the valuation of low-value tangible assets, so-called amortisation scale is used, which expresses the decrease in the assets value in percentage depending on the length of its use (age). Amortisation scale of low-value tangible assets is shown in Figure 1.

Figure 1: Amortisation scale of low-value tangible assets (in %)
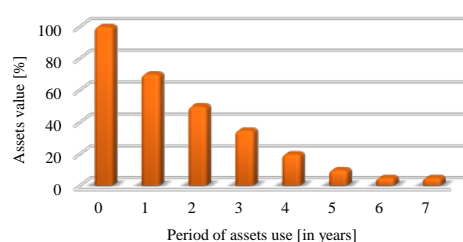
Source: Authors.

Using the amortisation scale (Figure 1), the valuation of low-value tangible asset, whose list is given in Table 2 along with the period of its use, its purchasing price and the price used for the valuation in CZK will be carried out.

Table 2: low-value tangible assets of the association XYZ

Item	Period of use [years]	Purchasing price [CZK]	Value for valuation [CZK]
Washing machine	6	11,444.46	572.22
Writing desk	6	4,516.30	225.81
Rack	6	5,559.97	277.99
Table	6	5,061.34	253.06
Electric saw	6	3,474.70	173.73
Built-in cupboard	6	8,860.65	443.03
Suite of furniture	6	18,181.73	909.08
Washing machine	6	8,877.31	443.86
Cutter	6	23,757.98	1,187.89
Rack systems	6	17,817.30	890.86
Manual cutter	6	31,578	1,578.90
Rack	6	11,357.25	567.86
Office furniture	6	10,905.04	545.25
PC Apple	6	26,993.87	1,349.69
Working table (2 pieces)	6	3,617.41	180.87
External HDD	6	4,241.28	212.06
flashdisk	6	782.31	39.11
Cordless screwdriver	6	4,173.85	208.69
Rack system	6	11,780	589
Cleaning machine (2 pieces)	6	6,370.58	318.52
Washing machine	6	14,433.35	721.66
Pallet carrier	6	14,630	731.50
Mobile stand	6	6,365	318.25
Working table	6	3,990	199.50
iPad 2	6	11,958.60	597.93
Mat cutter	6	4,083.10	204.15
GPS satnav	5	4,654.05	465.40
Chair	4	4,294.95	858.99
Textile cutting machine	4	28,177.95	5,635.59
Apple PC (2 pieces)	4	23,545.75	4,709.15
Camera (2 pieces)	4	8,644.05	1,728.81
Mobile phone (2 pieces)	2	10,198.25	5,099.12
Mat cutter	1	28,181.75	19,727.23
Notebook	1	7,450.85	5,215.59
Mobile phone	1	4,231.30	2,961.91
Apple PC	1	21,975.40	15,382.78
Printer	1	12,540	8,778

Source: Authors.

Table 2 shows that low-value tangible assets consist of 38 items, and its overall purchasing price was CZK 428,705.70 CZK. On the basis of its value determined using the amortisation scale, the overall value of CZK 84,303 will be included in the calculation of the intangible assets value.

On the basis of selected accounting indicators, the value of financial asset will not be determined for the model association XYZ, since according to these accounting indicators, the model association XYZ does not have any cash in hand or funds deposited in bank accounts.

Financial asset of the model association XYZ includes its receivables invoiced to customers. Therefore, any receivables of the model association XYZ created directly in relation with its activities will be further examined. Such receivables will then be divided in terms of their recoverability, i. e. receivables with a

maturity longer than one year (irrecoverable receivables) will be identified. If such receivables are identified, in overall valuation of this item, they will be deducted from other receivables with a maturity shorter than one year.

Furthermore, the liabilities of the association XYZ will be valued by the sum of all outstanding invoices as of the valuation date (31 December 2017). In order to determine the value of the association XYZ´s intangible assets using the asset-based valuation method, it will be necessary to carry out the valuation of the vehicle fleet of the association, which consists of four motor vehicles. The valuation of the motor vehicles will be carried out using the software CabiCAT GT of the company Cebia s.r.o. Using this software, it is possible to determine the current market price of a vehicle as of the required valuation date.

The last item to be valued in order to determine the value of the model association XYZ´s asset and to determine the value of its intangible asset is the production premises of the XYZ association. These production premises (property) will be valued using the comparative method on the basis of found similar properties for sale using advertising servers. The prices of similar properties found will be converted to the unit price on the basis of their floor area and subsequently, this unit price will be modified using five coefficients: coefficient of price source reduction (K_1), coefficient of the construction and technical condition of the property (K_2), coefficient of equipment (K_3), coefficient of location and size of land (K_4), and coefficient of floor area (K_5). By determining the median of these modified unit prices, it will be possible to identify the modified unit price of the property. This value will be multiplied by the floor area of the production premises used by the model association XYZ. The overall floor area of the property used for manufacturing and at the same time to meet the needs for dwelling of both members of the model association XYZ is 180 m^2, where 70% of this area is used as living space and 30% as production premises of the model association XYZ. Subsequently, the value of the land on which the property is situated, determined by the relevant normal prices in the locality, will be deducted from the overall price of the property. The basic price of a building plot in the locality where the given property is situated is CZK 1,253 CZK/m^2. The area of the land where the given property is situated is 1,300 m^2.

In the second part of this contribution, the model association XYZ will be valued using the selected income-based valuation method. The value of the association determined using the income-based method represents the sum of all tangible and intangible assets of the association. In order to determine the value of the association using the income-based method, the two-stage DCF model will be used. For this purpose, the financial plan of the association XYZ will be drawn for the period of 2018–2021.

The next step in the valuation of the model association XYZ using the selected income-based method will be the determination of the amount of alternative costs of equity r_e. For this purpose, the build-up model will be used. Formula 1below represents the selected build-up model of the calculation.

$$r_e = r_f + r_{pod} + r_{finstab} + r_{la} \qquad (1)$$

where:
- r_e — *cost of equity,*
- r_f — *risk-free yield,*
- r_{pod} — *risk premium for business risk,*
- $r_{finstab}$ — *risk premium for financial stability,*
- r_{la} — *risk premium for size of enterprise.*

Yield value of the model association XYZ will be calculated as the sum of the values of the first and second stage of the DCF model. Formulas 2 and 3 show the individual steps in the calculation. Yield value in the 1st stage of the DCF method will be calculated as follows (see Formula 2):

$$H = \sum_{t=1}^{T} \frac{FCFE_t}{(1 + n_{VK(z)i})^t} \qquad (2)$$

Where: H *business value,*
         $FCFE_t$ *Free cash flow to equity in year t,*
         $N_{VK(z)i}$ *cost of equity at specific debt in year i.*

Subsequently, the second stage of the DCF method will be calculated using Formula 3.

$$PH = \frac{FCFE_{T+1}}{n_{VK(z)T+i} - g} * \frac{1}{(1 + n_{VK(z)i})^T} \qquad (3)$$

Where: T *years in the first stage,*
         g *growth in the second stage.*

The value of the association XYZ´s intangible assets will be determined by calculating the difference between the asset-based and income-based valuation method.

4 Results

For the purposes of this contribution, it was necessary to assess the development of Industrial Production Index in the Czech Republic. Figure 2 shows its development for the manufacturing industry at constant prices (bacic index, average in the year 2010 = 100) released by the CSO.

Figure 2: Development of Industrial Production Index for manufacturing industry (in %)
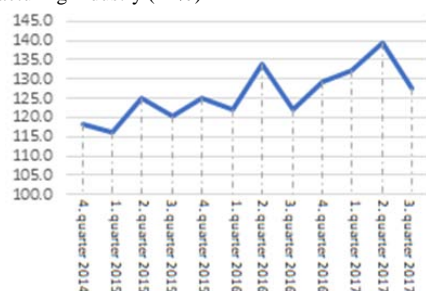
Source: CSU, 2020.

Figure 2 clearly shows that in mid-2017, the Industrial Production Index for the manufacturing industry achieved the highest values in the past three years, and compared to the base year 2010, there was an increase to 140%. However, in the period preceding the valuation date, the value of the index decreased to 127%.

Subsequently, according to the financial statements provided by the model association XYZ, its financial health was analysed by the difference of its income and expense items. The difference of the income and expense accounting items is shown in Table 3.

Table 3: Difference of income and expense accounting items of association XYZ (in CZK)

Accounting period	2012	2013	2014	2015	2016	2017
Incomes	3,782,922	3,827,332	4,651,051	5,800,337	7,288,916	3,782,922
Expenses	3,336,552	3,475,784	4,329,146	5,506,796	6,081,950	3,336,552
Difference	446,370	351,548	321,905	293,541	1,206,966	446,370

Source: Authors.

Table 3 clearly shows that the difference between the income and expense accounting items was almost constant in the years 2012–2015 and 2017. In 2016, there has been a significant fluctuation caused by the increase in investments in the equipment of new production premises where the model association XYZ operated.

Based on the comparing the results of the development of the Industrial Production Index and selected accounting indicators of the model association XYZ, it can be stated that the model association XYZ is a financially sound company without any significant hidden threats. The transformation of its legal form into a limited liability company is thus possible, and the future of the model association XYZ should not be affected by this transformation.

Next, the value of the model association XYZ's inventory was determined. On the basis of the list of inventory provided by the model association XYZ, its value was determined by the sum of its purchasing prices to CZK 992,471.65.

Another step consisted of reviewing the receivables of the model association XYZ. It was found out that the model association XYZ has receivables totalling CZK 358,273.78 as of the valuation date (31 December 2017). At the same time, one irrecoverable receivable was identified at the amount of CZK 13,468.43. After deducting this receivable, the total amount of the association XYZ´s receivables was determined CZK 344,805.35 (358,273.78 CZK – 13,468.43 CZK = 344,805.35 CZK).

Another item valued using the asset-based valuation method is outstanding liabilities of the model association XYZ as of the valuation date (31 December 2017). Based on all invoices provided by the model association XYZ as a part of all data provided for the purposes of this contribution, the value of all liabilities as of the valuation date was determined at CZK 563,409.06.

Subsequently, the model association XYZ´s vehicle fleet was valued in order to determine the value of its asset and thus the value of its intangible asset. The overall value of the vehicle fleet was determined at CZK 1,275,141 using the software CabiCAT GT as of the valuation date.

The last item to be valued using the asset-based valuation method is the property where the production premises in which the model association XYZ operates are situated. It is one property (a house) which is partly used as residential premises and partly as production premises of the model association XYZ. In order to determine the usual price of the given property, similar properties offered for ssale via real estate advertising servers were found. Table 4 represents a list of similar properties for the purposes of comparison. The bid prices of such properties were converted into the unit price by their floor area. The last item to be valued by the property valuation method is

Table 4: List of properties found for comparison

Bid number	Bid price [CZK]	Build-up floor area in m^2	Unit price CZK/m^2
1	3,650,000	170	21,534
2	4,650,000	204	22,794
3	5,300,000	258	20,511
4	2,900,000	156	18,590

Source: Authors.

Subsequently, the unit prices of the properties found were modified using the aforementioned coefficients K_1 - K_5. Table 5 shows the unit price and the modified unit price of the similar properties found.

Table 5: Modified unit prices of the properties found for the purposes of comparison by the values of the coefficients K_1 - K_5

Bid number	K_1	K_2	K_3	K_4	K_5	Modified unit price CZK/m^2
1	0.95	1.00	0.95	1.05	0.98	19,998
2	0.95	1.00	0.92	1.05		20,918
3	1.00	1.00	0.90	1.07	1.08	21,332
4	1.00	1.05	0.95	1.12	0.95	19,730

Source: Authors.

On the basis of Table 5, there was determined the median of the modified unit prices for m^2. The median of modified unit prices is 20,458 CZK/m^2. Based on the floor area of the property partly

used as production premises of the model association XYZ, the value of the property was determined at CZK 3,682,440 (20,458 CZK/m^2 * 180 m^2 = 3,682,440 CZK). Subsequently, the value of land on which the given property is situated was deduced. The land value in the given locality was determined at CZK 1,628,900 CZK (1,253 CZK/m^2 * 1,300 m^2 = 1,628,900 CZK). After the deduction of the land value from the house value, the value of the property was determined at CZK 2,053,540 (3,682,440 CZK – 1,628,900 CZK = 2,053,540 CZK). Given that the activities of the association are operated only on the 30% of the overall area of the property valued, the resulting value of this property was determined at CZK 616,062 (30% out of 2,053,540 CZK = 616,062 CZK).

The overall asset value of the model association XYZ is given in Table 6.

Table 6: Overall asset value of model association XYZ

Item	Value
Inventories	992,471.65 CZK
Fixed tangible assets (vehicles + building)	1,891,203 CZK
Short-term tangible assets (low value)	84,303 CZK
Financial assets	344,805.35 CZK
Gross value	3,312,783 CZK
Liabilities(-)	563,409.06 CZK
Net value (after rounding)	**2,749,374 CZK**

Source: Authors.

The overall asset value of the association was CZK 2,749,374 (after rounding).

In order to value the model association XYZ using the selected income-based method, the financial plan of the association for the period of 2018–2021 was drawn. Table 7 shows the resulting free cash flows after tax from all aforementioned years included in the calculation in the 1st and 2nd stage of the used DCF method.

Table 7: Selected cash flows after tax according to the financial plan for the years 2018–2022

Year	Free cash flow after tax [CZK]
2018	177,630.81
2019	181,183.43
2020	184,807.01
2021	188,503.24

Source: Authors.

Subsequently, the value of the alternative costs of equity was determined using Formula 1. The values of the individual variables were obtained from the publicly available database of the Czech National Bank (CNB) and the Ministry of Industry and Trade of the Czech Republic (MIT CR). Table 8 shows the input values in the calculation of the alternative cost of equity using the selected build-up model.

Table 8: Items for calculating risk-free yield (r_e) according to CNB and MIT CR

	CZ NACE 55
Risk-free yield	1.77%
Risk premium for business risk	2.65%
Risk premium for financial stability	1.87%
Risk premium for size of enterprise	1.09%

Source: CNB (2020) and MIT CR (2017) (own interpretation).

After the substitution in Formula 1, the following equation was obtained:

$$r_e = 1.77\% + 2.65\% + 1.87\% + 1.09\%$$

$$\boldsymbol{r_e = 7.38\%}$$

Alternative costs of equity were determined at 7.38% using the build-up model. Next, Formula 2 was used to determine the value the model association XYZ using the income-based method DCF in the 1st stage. After substitution in Formula 2, the following equation was obtained:

$$H = \frac{177,630.81\ CZK}{(1+7.38\%)^1} + \frac{181,183.43\ CZK}{(1+7.38\%)^2} + \frac{184,807.01\ CZK}{(1+7.38\%)^3}$$

$$H = 165,422.62\ CZK + 168,731.08\ CZK + 172,105.62\ CZK$$

$$H = 506,259.31\ CZK$$

Using the income-based DCF method in the 1st stage, the value of the model association XYZ was determined at CZK 506,259.31 CZK. Subsequently, Formula 3 was used for determining the value of the model association XYZ in the 2nd stage of the calculation of the income-based DCF method. After substituting in Formula 2, the following equation was obtained:

$$PH = \frac{175,547.81\ CZK}{(7.38\% - 2\%)} * \frac{1}{(1+7.38\%)^3}$$

$$PH = 2,829,869.09\ CZK$$

Using the income-based DCF method, the value 2nd stage of the calculation was determined at CZK 2,829,869.09.

By summing the first and second stage of the calculation using the income-based DCF method, the resulting value of the model association XYZ was obtained.

$$506,259.31\ CZK + 2,829,869.09\ CZK \cong 3,336,128\ CZK$$

The value of the model association XYZ determined using two-stage income-based DCF method was CZK 3,336,128 after round.

Finally, the difference of the value determined using income-based and asset-based method for the valuation of the intangible asset of the model association XYZ was calculated.

$$income\ based\ value - asset\ value = intangible\ assets\ value$$

$$3,336,128\ CZK - 2,749,374\ CZK = 586,754\ CZK$$

Carrying amount of the model association XYZ´s intangible assets that will, together with the tangible and financial asset, be transferred to the newly established LLC was determined at CZK 586,754 using the methodology described in the methodological part of this contribution.

5 Conclusions

The contribution determined the value of intangible assets by means of application of selected modified valuation method.

The proposed modifications of the methodology were applied on a specific model associaton XYZ, association of two natural persons that joined on the basis of a contract of association. The valuation was carried out first using the asset-based and then the income-based valuation method. The valued accounting items included inventories, low-value tangible assets, financial assets, receivables and liabilities, and, for the purposes of the financial calculation of the value of the model association XYZ´s intangible assets, also its vehicle fleet and the property used for the operation of the association´s activities (modified method). In the second part of the contribution, the value of the model association XYZ was determined using the income-based method (two-stage DCF method). Using DCF method, the subject of the valuation is valued as a whole, and thus its value determined using this method includes also the value of the model association´s intangible asset.

By calculating the difference of model association value obtained using the aforementioned methodology (income-based and asset-based valuation method), the valuation of the model association XYZ was determined at CZK 586,754 (after rounding).

The objective of the paper was thus achieved. The results show that for correct determination of the carrying amount of corporate intangible assets, it is necessary to consider all its

tangible and financial assets, since all company assets are involved in the creation of its intangible asset´s value.

There are many variants of the applied asset-based and income-based methods; therefore, further research migh aim to specify the conditions that determine the most suitable combination of the individual variants in order to achieve the most precise value of business entity´s intangible assets. However, the modification proposed by the authors significantly contributes to achieving more accurate results in terms of determining the carrying amount of intangible assets.

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Primary Paper Section: A

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