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The explanation of the difference between the book value and the business value – Valuation problems of the off-balance sheet items of companies

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INTRODUCTION

In the course of recent decades, the difference between the market valuation of companies and their assessment based on accounting has increased dramatically. In 1978, the book value of companies in the United States amounted to 95 percent of their market value on average, while this rate was a mere 28 percent ten years later. In our days, the indicator is below 20 percent. (Personnel Today, 2002)

What importance does this have? Accounting reports, especially the annual report is provided to each owner. Since more reliable information is not available to them, a large number of minority shareholders use these data in an attempt to understand what has happened at the company in the previous year. These are the data on the basis of which they decide whether to sell their share at the actual rate or on the contrary, buy more stocks. But how could they make a sound decision if they can only see one fifth of the company's worth?

External parties also consider accounting reports as their primary sources. These serve as one of the major inputs for suppliers when examining the solvency of their customer, for banks when evaluating credit risk and for the state when assessing taxes. Can they get a valid picture of the company this way?

The management of the company are at no better position. They can hardly be expected to make correct decisions on the basis of a solely past-based database, especially if 80 percent of the total value is not included. Is there a point in applying decision-supporting systems that do not supplement the information provided by history oriented accounting?

The answer to the above questions can hardly be 'yes'. The inconsistencies revealed in the accounting reports of Enron and WorldCom drew attention to the differences between statements and actual facts. How reliable are the statements which encouraged analysts to suggest buying the stocks of the company even only one or two months before the final collapse? Is there a difference between the business and accounting-based assessment of a company apart from reasons covered by criminal law? Considering these problems is very topical since the set of accountancy rules used in the United States, the GAAP, was significantly modified in 2002 – mainly because of the reasons discussed above.

The goal of my research is to show what caused the difference between business and book values. (My approach to value is from the viewpoint of a perfectly informed owner who is not

capable of affecting the strategy.) In order to reveal these factors, however, it is not enough to apply only the tools of accounting or finance: it is also necessary to give a complex overview of the company, of which management organisation, human resource management and information management are vital elements among others.

The complexity of the topic prevents me from offering a detailed and diverse introduction of each question. The primary objective is to identify the particular factors that explain the above phenomena and whose detailed analysis and scientific discussion may be the topic for further research. Accordingly, the explanation of each question will represent their respective importance estimated on the basis of practical experience rather than the diversity of possible approaches or the level of detail applied in specialist literature.

Although the difference between the book and business values of a company may be significant, this should by no means suggest that accounting is useless or faulty. Rather, I am hoping to draw attention to the fact that *the purpose of accounting is not valuation*. The principle of prudence questions the possibility of showing real value anyway, since only the decrease in value must and may be included in the books immediately. The root of the problem is that a tool created for another purpose is often and by many used for a goal it can only attain to a limited extent. But can we blame the metre rule for not being able to accurately measure time?

In the course of my empiric research, I have not only verified the similarity and extent of difference of the business and book values, but have also examined the factors in which the difference is rooted and how the difference changes with time.

1. THEORETICAL SUMMARY

It is a worldwide tendency that the difference between the book value and business value of companies is increasing. The goal of this thesis is to analyse the reasons of this difference, that is, to revise the items excluded from the balance sheets of non-financial companies. According to the applied definition, this circle includes all factors that explain the difference between the business value and the book value of the firm.

Book value, replacement cost and market value of the assets of some large companies

(Billion $)	Market value	Book value	Replacement value	„Hidden value"
Coca-Cola	148	6	15	90%
Microsoft	119	7	18	85%
Intel	113	17	43	62%
General Electric	169	31	77	54%
Exxon	125	43	107	14%

Based on Roos (1997), quoted by Booth (1998)
Table 1

The overwhelming majority of assessment methods are based on the accounting reports of the company to be valuated. These input data, however, may be distorted, faulty and defective from a valuation point of view. To remove these distortions I have identified three types of corrections with respect to accounting statements.

(1) There is no general rule for the correction of accounting distortions and defects. Correction is nonetheless possible in individual cases through reliance upon the discussed principles. (2) Non-recurring items are not relevant regarding future operation, therefore these factors are to be removed from forecasts in order to be able to focus on the standard income-generating capacity. (3) The value of assets not required for operation that do not operate thereto are not included in the valuation models based on corrected reports. These are to be assessed separately, then the price is to be added to the calculated business value.

Balance sheet complete with intangible assets, corrected from a financial viewpoint

	Assets			Liabilities
Balance sheet	*Current assets*			*Short-term liabilities*
	Cash, bank accounts			Payable
	Marketable securities			Short-term credits
	Receivables			Guarantee obligations
	Other receivables			*Long-term liabilities*
	Inventories			Long-term credits
	Fixed assets			Liabilities from pension funds
	Land			Deferred taxes
	Buildings			Leasing
	Machinery and equipment			*Equity*
	Invested financial assets			Income from sale of shares
	Goodwill			Capital reserve
Off-balance sheet items	*Intangible assets*			Earnings not accounted
	Protected logos and patents			*Intangible liabilities*
	Sales network			Pending litigations
	Loyal and trained workforce			Permanent employment policy
	Customer loyalty			Devotion to product and service quality
	Certificates			
	Brand names			Marketing and advertising needs

Based on Shapiro and Balbirer (2000, p. 2)

Chart 1

Through the comparison of the principles of defining fair business value with the practice of preparing accounting reports, I have identified three groups of items excluded from the balance sheet that explain the difference of the two values: (1) the difference between the book value and the fair value of accounted assets, (2) the fair value of company assets excluded from the balance sheet, and (3) the value of synergy or quasi assets that generate added business value but cannot be sold separately.

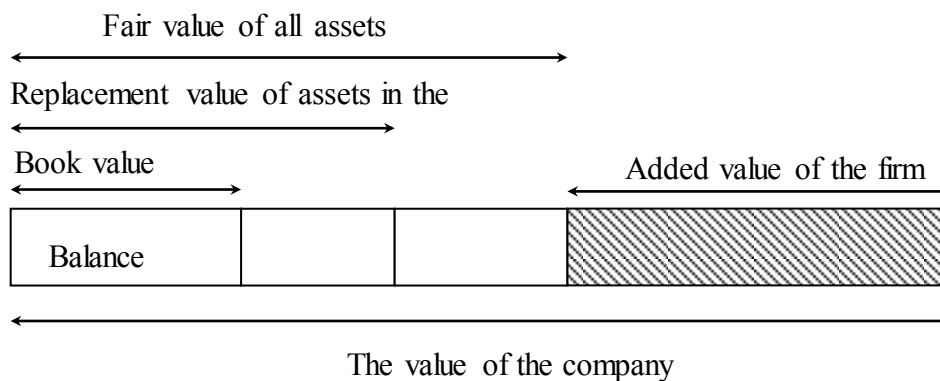**Categories of items excluded from the balance sheet**

Fair value of all assets

Replacement value of assets in the

Book value   Added value of the firm

Balance			

The value of the company

Chart 2

Although correction may become necessary for each and every item, only some of these are justified at a particular company, since a number of them are irrelevant and have only minor effects. So, the presented collection of items can be used as a – hardly comprehensive – check list to prevent serious inaccuracies when applying a certain evaluation method.

There have been several attempts at explaining the sources of the difference between the value of the firm and the fair value of the assets that can be independently evaluated, that is, the added value of the firm. Almost each function tried to demonstrate that the sometimes rather significant difference is due to the factor in question. Some authors claim that the entire excess is due to human resources (Standfield, 2002, pp. 124-125), others credit it to strategy (Day, 1990, p. 336), research and development, growth opportunities (Black et al., 1999), management (Strassman, 1990, pp. 88-89), permanent competitive advantages (Kay, 1993, pp. 206-210) or customer value (Sargeant, 2001). The majority of researchers, however, believe that the difference is the total value of intangible or intellectual capital (intangible assets is used occasionally in the same sense) (Standfield, 2002, p. 48), which – according to most definitions – also includes the above items.

The added value of the firm comes from factors that are closely linked to the company but cannot be sold separately. There can be at least two reasons for an item to be classified in this group: (1) the factor in question is not owned by the company and cannot consequently be sold (management, employees), or (2) the given factor is inseparable from the company, and therefore cannot be sold in itself (strategy, growth options, organisation, contracts). Specialist literature refers to the total of these factors as intellectual capital (IC).

The valuation of intellectual capital is by no means an easy task. According to the surveys of Coff (1999), the negotiations concerning mergers and acquisitions in knowledge-heavy industries last more than the average, and its is common for the customers to settle a smaller part of the purchase price in cash than the average in an effort to share the risk underlying the companies (and the valuation). His findings show that premium above former market price is also lower than in other industries. The significance of this group of assets is illustrated by the estimation of Interbrand.

Significance of intangible asses in various industries

percent	Tangible assets	Intangible assets
Financial services	20	80
Luxury goods	25	75
Information technology	30	70
Pharmaceuticals	40	60
Food	40	60
Vehicles manufacturing	50	50
Public utilities	70	30
Industrial goods	70	30
Retail	70	30

Interbrand estimation, based on Doyle (2001)

Table 2

Some authors (Thaker, 2001; Standfield, 2002, p. 48) consider the difference of the book value and the market value of the equity (or the company) as intellectual capital. As seen above, this can be accepted as a very rough estimate at best, since they ignore not only the difference between the book value and market value of the assets included in the balance sheet (which may be significant with a high inflation rate), but they also fail to consider the effects of the funding agreements and financial products excluded from the balance sheet. They also ignore that the purchased components of intellectual capital are already included in reports at a certain value.

Lynn (1998) approaches the problem from the assets side, and divides company property into three parts: tangible assets (buildings, equipment and stocks), financial assets (cash, investments, customers) and intellectual assets (as well as the capital invested therein). The concept of business enterprise value (BEV) is the result of a similar approach. This term usually refers to the difference between the fair values of the tangible assets and the entire company. (Wolverton et al., 2002)

According to the OECD directive issued in 1999, intellectual capital consists of two parts: structural capital (including synergy) and human capital. (The same division is used among others by Sharma (2001), Bontis (2001) and Fernández (2002, p. 584).) Several authors, among them Amram (2002, p. 171) believe that the value of the activities that require specialist knowledge (R&D, special services) should also be included here. Assessment and practical application, however, are rather difficult partly because the knowledge required and the special group of tangible assets are indivisible, and can usually only be evaluated together. Baruch Lev claims that tangible assets in themselves do not generate value (Gross, 2001), therefore all excess can be allocated to intellectual capital. This can only be accepted if the

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application of the principle is restricted to standardised assets produced in series that are easily available on the market.

According to another type of division (Mayo, 2000, and Dzinkowski, 2000) intellectual capital is made up by customer capital (customer relationships, market share, image, brand names), structural capital, (Dzinkowski calls it organisational capital) (processes, patents, databases, know-how, culture) and human capital (expertise, team work, motivation, leadership, know-how). There are also various definitions of structural capital. Most authors mean intangible assets that *cannot be linked to a particular employee* by structural capital. According to Mayo, this group is made up by factors that "stay when workers go home", i.e. he contradicts Dzinkowski who uses the same division and classifies structural hierarchy as human capital, but believes that knowledge (most probably recorded in some form) is part of the structural capital.

Brooking (1996) (quoted by Bontis, 2001) divides intellectual capital into four parts. (1) Market assets and intangible assets contributing to the evaluated performance: brand names, customers, distribution channels, licences and franchise rights. (2) Human assets comprise structural creativity, problem-solving abilities, drive and leadership skills, while (3) the assets related to intellectual property are know-how, business secrets, patents and logos. The author defines (4) infrastructural assets as the total of technologies, processes, company culture, risk management, databases and communication systems.

Oliver (2001) defines shareholder value as the sum of four intellectual capital factors. (1) Customer equity means the relationships maintained with customers, (2) brand equity represents the market strength of the products and services of the company. (3) Public equity covers the value originating from the ability to operate independently of the effect of the public opinion and the (statutory) intervention of the state. (4) Human equity is generated by human capital and employees' talent. The primary role contacts play in generating value is emphasised by Srivastava et al. (1998).

Various divisions of intellectual capital

OECD, Sharma, Bontis, Fernández	Mayo, Dzinkowski	Brooking	Oliver
Organisational structure	Structural capital	Infrastructural assets	Public equity
	Customer capital	Market assets	Customer equity
		Assets related to intellectual wealth	Brand equity
Human resources	Human capital	Human assets	Human equity

Chart 3

The group of the discussed factors is far from being complete. Due to their unique characteristics, the synergic effects of various companies manifest in different ways. In addition, changes are also possible to these forms: coaching, for instance, transforms the culture and knowledge linked to the organisational structure into human capital, while recording employee experiences and including their habits in the system of rules (knowledge management) turns human knowledge into an organisational quasi-asset.

2. EMPIRICAL SURVEY

Having considered theoretical questions, I verified the practical applicability of the most important principles and conclusions. Accordingly, my research is primarily of an exploratory and explanatory nature. (Babbie, 1996)

2.1. THE PURPOSE OF THE RESEARCH

I used the theoretical overview as the basis to clarify three groups of questions. These verify the relationship of book and business value, the extent of their difference as well as the industry- and country-specific characteristics thereof.

(1) First, I will examine the relationship between the book value of a firm and its value calculated according to the business approach. Foreign research suggests that the changes in the book value are closely linked to the business value (see Bernard – Noel, 1991, Barth – Clinch, 1998, and Aboody – Barth – Kasznik 1999, quoted by Barker, 2001, p. 122-123). The international experience discussed in the theoretical part also show that the gap has been widening in recent decades (Boulton- Libert, 2000, Personnel Today, 2002).

(2) In the second part, I will attempt to explore the reasons behind the difference of book value and business value. According to several surveys (Sougiannis, 1994, 1996, Aboody and Lev, 1998, Barth et al., 1998), the supplementation of the information found in the balance sheet can help prepare a more accurate estimation model.

(3) Finally, I will examine the extent of the difference between the book and business values, and whether its changes are affected by industry- and country-specific factors. Earlier research (Ling-Nagy, 1992) suggest that the average ratio in various industry segments in the United States were substantially different. This is due in part to the different asset structure and the different significance of quasi assets, and partly to the different profitability and growth prospects of the sectors in question. Country-specific variations are due to differing macroeconomic prospects, regulation environments and infrastructural background.

2.2. THE RESEARCH MODEL

In an effort to answer the questions defined in Section 2.1., I have set up a model on the basis of the theoretical background outlined in the first part of the thesis. The research model is illustrated in Chart 4.
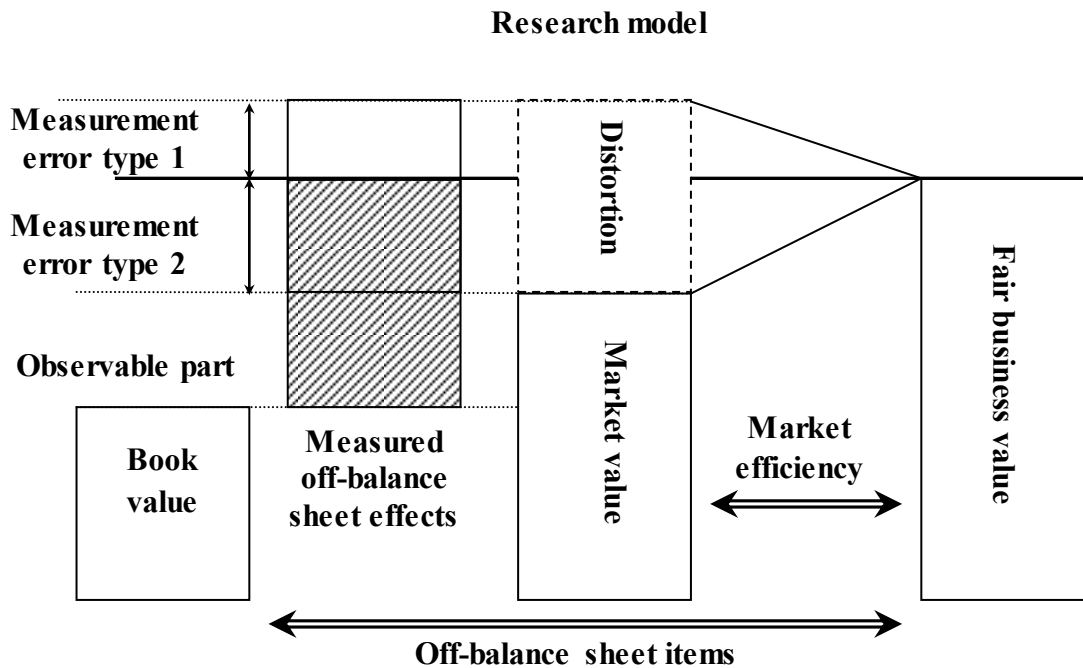
Research model

Chart 4

I defined the amount of off-balance sheet items as the difference between the fair business value and the book value. Since the specification of the fair business value would only be possible in the course of a very detailed analysis based in internal information, this difference will not become directly apparent in the survey. Thus, I will be forced to rely on estimations concerning the definition of business value.

As an approximation, I will use the market value of the shareholder capital and credit of the firm (i.e. the company itself). Accordingly, I considered the share and bond prices of companies listed at the stock exchange. This approach, however, may cause inaccuracies in the measurement: depending on the examined period and the effectiveness of the market in question, the market price may either be an overestimation or an underestimation of the business value.

The gap between the market value and the fair business value is explained by the theories discussing the efficiency of capital markets. Although it is far from proven that various

national capital markets are efficient, since the objective of my survey is to identify the items that have an actual effect on value, it is sufficient for me to assume that the distortion existing between the business value and the market value affects all items excluded from the balance sheet to an identical extent, that is, any problems related to efficiency will only influence the absolute value of the off-balance sheet items, and leave their explanatory strength unaffected.

In order to eliminate the inaccuracy deriving from the size of the company in question, I will not consider the absolute difference between the business value and the book value but their relative ratio. (Hypotheses have also been formed on this basis.) Therefore, corrections are to be performed also with respect to various explanatory variables.

The distortion caused by inflation (for details see: Radó, 2004) may also be substantial. Since the combined effects of a price increase differ depending on the nature of the activities of the company in question, inflation in itself may increase the difference between the results of market valuation that relies on the current situation and accounting measurement based on historical data, but the price increase in itself will reduce the business value of the firm (extra tax obligations for the apparent profit, amortisation replacement loss), which in turn reduces the ratio.

2.3. RESEARCH HYPOTHESES

There are three hypotheses related to the question of the relationship of book value and business value:

H1: There is a positive relationship between the book and business values of companies.

The purpose of accounting reports is to present the financial state and effectiveness of the company. Albeit valuation from a business point of view differs from assessment based on accounting in several aspects, the system of goals applied by the two systems are practically identical, and the primary input source for a business valuation is the same economic information the accounting system is based on. Thus it can be assumed that the correlation between the results of the two different measurements and between the changes to these results is positive and strong.

H2: There is significant difference between the book and business values of companies.

International experience shows that book value has become increasingly different from business value in the recent decades (along with the rise in the importance of intangible assets and the spreading of special financial products). A comparison of the book and business values of a company will show how realistic a picture accounting reports in themselves can give regarding the financial and income generating state of the company or its business and market values.

H3. The difference between the book and business values of companies has increased in recent years.

According to international experience, the gap between accounting and business values is continuously rising. Following the specification of the extent of distortion, it is worth determining if it is apparent everywhere. This will serve as the basis to make conclusions concerning the geographic differences in the significance of the items excluded from the balance sheet.

I have defined four hypotheses in connection with the assessment of the reasons behind the difference of business value and book value:

H4. The structure of the balance sheet does not have a major impact on the ratio of the business and book values.

The individual approach of companies to the balance sheet may in theory affect the indicator, since the difference between business and accounting valuation approaches varies for each balance sheet item. The share of invested assets in the equity, which reflect inflation inaccuracies to a greater extent, the applied asset valuation method and the uncertainty of customer receivables may also influence the ratio significantly, similarly to asset composition.

According to international experience, however, the overwhelming majority of the business value of companies comprises assets and other factors that are excluded from the balance sheet. The gap between the value of assets calculated from an accounting or a business viewpoint is on a significantly lower scale, thus the value of the indicator is only affected to a negligible extent by such valuation distortions.

H5. The ratio of the business and book values is influenced by such company-specific items that are excluded from accounting statements.

According to the discussed theoretical background, the assets and quasi assets excluded from the balance sheet also have a major impact on the indicator. Self-created intangible assets (brands, research and development), accumulated intellectual capital, unique competitive advantages may all contribute to the difference.

H6. Inflation has an effect on the gap between the business and the book values.

Specialist literature claims that price increases may cause severe distortions in accounting statements. The valuation principles for various groups of assets differ, and so may the procurement and replacement or market value of the assets owned by the company for a long time that are not recorded at their market price.

H7. The tendency of the business and book values to change with time is influenced by the composition of the group of variables explaining their difference.

The values of certain groups of off-balance sheet items show different changeability characteristics. While assets (regardless of whether they are included in the balance sheet at a particular value) can in theory be sold at any time on market conditions, quasi assets and synergy are only valuable to the given company or are indivisible therefrom. This is why the company-specific risk of this latter group of assets is significantly higher, i.e. its volatility is also expectably higher.

Since the ratio of the business and the book values is explained by the combination of these two groups of factors, the rate is to be less volatile with time in the case of companies where the value of assets excluded from the balance sheet is dominant than at firms where the gap is mostly due to synergic effects.

The following hypotheses account for the industry- and country-specific differences of the book and business values:

H8. The gap between the business and book values is affected by industry characteristics, thus the rate will significantly differ across sectors.

The difference of the indicator in question may be affected by a number of industrial factors. Since the growth prospects, development cycles and technology (composition of the required combination of resources) may be very different in various industries, the ratio of the book and business values may also differ significantly.

H9. The ratio of the business and book values is affected by company- and region-specific factors, thus the rates in the same industry will vary from country to country.

In addition to the distortion factors discussed so far, there are country- and region-specific effects (macroeconomic trends, infrastructure and labour market conditions) that contribute to the indicator. These affect all participants in the economy of a certain country (region), thus cross-border comparison is needed to identify them.

2.4. THE ANALISED DATA

For the purposes of the assessment, I created a database, which contains the annual data of 4,108 companies for the period between 1999 and 2002. (The variables are summed up in Table 15.) I supplemented the database with the data of the foreign economy analysis conducted by the Hungarian Ministry of Foreign Affairs (Ministry of Foreign Affairs of the Republic of Hungary, 2003). I derived ten quotients for each year from the base variables in order that data from companies of different sizes and preparing their statements in various currencies become comparable. This was then supplemented with approximately twenty more indicators describing annual change.

Base variables assessed
Operation headquarters (country)
Region of operation (four regions)
Industry
Beta (CAPM)
Market value of the firm (1999-2002)
Invested assets (1999-2002)
Tangible assets (1999-2002)
Intangible assets (1999-2002)
Cash holdings (1999-2002)
Total assets (1999-2002)
Equity (1999-2002)
Long-term credits (1999-2002)
Table 3

Share price and balance sheet data are from the database of financial data provider Bloomberg. The market value of the firms was included directly in the database: in the course of the definition thereof, traded shares and bonds were taken into account at their market price, not traded securities (preference shares, drafts) and long-term credits and loans were considered at their book values. (Assuming that creditors are rational, i.e. neither party is repeatedly mistaken, this has to be equal with market value on average.)

The selection of the companies was based on the information requirements of the hypotheses: the sample includes no credit institutions, financial service providers, holdings and conglomerates with diversified activities. Thus, the different balance sheet structure of the companies that pursue financial activities and the funding role of holdings are excluded, and unclear industrial classifications do not cause uncertainty in the sample.

It is a problem, however, that the database of Bloomberg does not contain all financial data of all traded companies that operate in the given region. As for Eastern Europe, for instance, only the data of the companies traded in the top classes of stock exchanges were available. This reduces the distortion caused by the ineffective pricing of certain shares due to illiquidity, but it also reduces the number of items in the sample, and thus limits the possibility of providing an independent statistical assessment of various countries.

The sample includes various data from 63 different industries and 31 countries. There are fewer than ten firms from 12 countries, but more than one hundred from 6 other ones, while in the case of industries, 13 has over a hundred items, and 10 below ten. The structure of the stratified sample is shown in Tables 4 and 5.

Distribution of the sample according to region

Region	Number of items (N)
United States	3,016
South America	182
Western Europe	713
Eastern Europe	197
of which Hungary	*18*
Total	**4,108**

Table 4

The high number of items from the United States gives a good picture of the effectiveness of the valuation of the US GAAP accounting system, while the more than 700 firms from Western Europe may be relevant with respect to the description of the region, since there are approximately 6,000 traded companies in the European Union, which means that the sample covers over 11.5 percent of the total.

Largest industries and countries in the sample

	Industry	N	Ratio		Country	N	Ratio
1	Telecommunications	237	5,77%	1	USA	3016	73,42%
2	Retail	236	5,74%	2	Germany	172	4,19%
3	Commercial Services	206	5,01%	3	Turkey	148	3,60%
4	Software	206	5,01%	4	Finland	119	2,90%
5	Healthcare-Products	205	4,99%	5	Brazil	103	2,51%
6	Computers	204	4,97%	6	Sweden	102	2,48%
7	Electronics	182	4,43%	7	Norway	79	1,92%
8	Pharmaceuticals	170	4,14%	8	Chile	76	1,85%
9	Oil & Gas	130	3,16%	9	Greece	47	1,14%
10	Food	114	2,78%	10	Netherlands	43	1,05%
	Sum of first 10	**1890**	**46,01%**		**Sum of first 10**	**3905**	**95,06%**
	Total sum	**4108**	**100,00%**		**Total sum**	**4108**	**100,00%**

Table 5

Distortion due to the composition of the database as well as validity and reliability problems may arise for particular countries because of the low number of sample items. Validity depends on the extent of the relationship between the phenomenon assessed and the variable monitored (i.e. as it is already apparent from the assessment model: market effectiveness), while reliability originates from the accuracy of measurements. The latter is of smaller significance, since annual reports are verified by auditors, and stock exchanges and financial supervisory authorities ensure compliance with the rules of accounting. (The companies involved in the great accounting scandals of recent years are not included in the sample.) The accuracy of market (stock exchange) data is guaranteed because they were taken from the database of the official data provider.

The ratio of the market and book values

	1999	2000	2001	2002
USA	**4.2489**	**4.2432**	**3.5978**	**3.0743**
Western Europe	**4.3880**	**3.7509**	**2.5296**	**2.4033**
Sweden	4.6225	3.5070	2.4340	1.9206
Germany	n.a.	5.2758	2.4693	1.6623
Finland	5.9468	3.5237	2.2455	1.6607
Eastern Europe	**5.8922**	**3.0080**	**2.9376**	**1.9394**
Turkey	6.6229	3.3028	3.4608	2.0772
Hungary	2.5547	1.2972	1.0683	0.9789
South America	**1.5413**	**1.4711**	**1.4575**	**1.4669**
Brazil	1.6462	1.5231	1.3654	1.5104

Table 6

The database needed to be cleaned before commencing the examinations. During this process, I erased the accounting company values below zero due to negative equity recorded in the books, since in this case the quotient of the market and accounting values could not be calculated, as the theoretical minimum of both values is zero, since the liability of the owners of joint-stock companies is limited, and creditors may lose the loaned amount at most. (That is, no one pays to a customer to buy shares or bonds from them.)

2.5. SUMMARY OF EMPIRIC RESULTS

The majority of the examination results confirmed the picture outlined on the basis of specialist literature. The findings of the verification of various hypotheses are summed up in Table 7.

Overview of examinations

Hypothesis	Examination	Result	
H1: There is a positive relationship between the book and business values of companies.	Analysis of correlation	Strong positive relationship both in the entire sample and the selected countries.	√
H2: There is significant difference between the book and business values of companies.	Descriptive statistics	Significant difference everywhere (except for Hungary).	√
H3. The difference between the book and business values of companies has increased in recent years.	Descriptive statistics	Significant decrease in the MV/ BV ratio in the assessed years – due to macroeconomic factors.	X
H4. The structure of the balance sheet does not have a major impact on the ratio of the business and book values.	Regression, factor analysis, cluster analysis	The assessed balance sheet structure indicators explained the trends of the MV/BV ratio very poorly or not at all.	√
H5. The ratio of the business and book values is influenced by such company-specific items that are excluded from accounting statements.	Regression, factor analysis, cluster analysis	Conclusions regarding MV cannot be made on the structure of the balance sheet, since it is also greatly affected by factors not covered in accounting.	√
H6. Inflation has an effect on the gap between the business and the book values.	Regression, cluster analysis	The rate of price increase significantly explained the MV/BV rate at companies with many inflation-sensitive assets.	√
H7. The volatility in time of the business and book values is influenced by the structure of the group of variables explaining their difference.	Cluster analysis, descriptive statistics	In knowledge-intensive industries using brand names and a lot of intangible assets, the variance of the MV/BV ratio was higher in the assessed period.	√
H8. The gap between the business and book values is affected by industry characteristics, thus the rate will significantly differ in different sectors.	Cluster analysis, cross-tables, descriptive statistics, regressions	The appropriate industry, along with the country and region of operation significantly explained the MV/BV ratio.	√
H9. The MV/BV ratio is affected by firm- and region-specific factors, thus the rates in the same industry will vary from country to country.	Cluster analysis, cross-tables, descriptive statistics, regressions	Both the region and country of operation, along with the appropriate industry significantly explained the MV/BV ratio.	√

Table 7

The findings of the analysis show that albeit there is a close relation between the accounting value and the market value (H1), the difference is substantial, and the changes of the two indicators did not even correlate in recent years, which suggests that the relationship between the nominal values is most probably the result of the long shared trends in past decades. Although the ratio is obviously higher than one (H2), as a result of unfavourable

economic trends, the difference between the two value significantly decreased in the assessed period (H3), but the difference is still nearly threefold.

It has been established that the balance sheet indicators included in the examination tell only very little of the company, the composition of the asset or liability side can therefore affect the MV/BV ration only to a limited extent (H4). There are, however, other factors excluded from the scope of accounting that do affect it (H5): inflation (H6) the industry in question (H8) and the main geographical area of the operations (H9) all significantly influenced the value of the indicator.

The research shows that the MV/BV ratio is especially high in the industries where companies require a high quantity of intangible assets, brand names, specialist knowledge and research and development. The quotient for these companies varies more than the average (H7), which is most likely due to the larger specific risk connected to these assets.

3. POSSIBLE UTILISATION OF THE RESULTS

Through the testing of the hypotheses I have shown the international importance of the items excluded from the balance sheet. The findings can be used in a wide range of fields.

(1) Research findings draw attention to the different approach of accounting and business valuation. Familiarity with the significance of this difference will help the valuation of a particular company by adding a much wider range of information base than pure accounting data. The theoretical material presented shows how an asset-based company valuation can be made more accurate than was in the case of traditional balance-based methods. By introducing the concept of the added value of the firm, it also points out that an asset-based approach will be different from the results calculated using income-based methods, and this is justified from a business point of view, although it does not necessarily mean that accounting is erroneous.

(2) The examinations also help understand the factors which are the root of the difference. This way, after familiarising with the unique characteristics of the operation of a given company, we will be able to concentrate on the most significant factors of distortion in the analyses, and the discussed theoretical background will also provide the methodology most suitable for the correction needed. The comparison of diverse theoretical approaches casts light on the diversity of possible approaches and reminds that it would be a serious mistake to valuate an asset with reference only to a single method. The comparison also helps identify the strengths and weaknesses of theses methods.

(3) It is an important conclusion that the items excluded from the balance sheet can be divided into two clearly separate groups (hard and soft assets), which represent different extents of risk. This revelation serves as a hint in the case of asset-based valuation regarding the risk underlying company value and the profit reasonably expected by investors. The discussed methods can thus be used also as a sort of control tool, supplementing income-based or other valuations (such as those based on multipliers and market comparison). The compiled methods will make it easier to explore the reality of explicit or implicit assumptions used in other methods.

(4) The grouping of assets and their recording at a certain value can help set up company performance measuring and controlling systems in a more accurate form that is tailored to the characteristics of the firm, thus enabling performance tracking and more effective decision-making.

(5) The information provided by accounting can be supplemented by the new results on the basis of the methods discussed in an effort to secure more reliable investor and creditor information. A different information system that characterises business operations better can be established, and may be incorporated in business reports and the supplementary Appendixs to accounting statements. Apart from this, the results can also be used in the current modification of the accountancy act.

(6) Statistical models showed that the difference between the values measured according to the two different approaches differs in the capital markets of various countries. The more detailed exploration of the reasons thereof may help more accurately interpret the accounting statements made in the country in question.

(7) I have confirmed that the significance of various items excluded from the balance sheet (hard assets and the added value of the firm) also differ by branch of industry, which may serve as a starting point in the performance of industrial benchmarking.

(8) The findings of the research can also be used in education, since the results of the differences of the accounting and business-based valuation systems can be illustrated very spectacularly using my figures, similarly to the necessity of establishing the valuation carefully and the complexity of the information required to define the value of a company.

(9) The results also illustrate the growing tension between standard economy that is very strongly connected to money-based assessment and the alternative approaches that emphasise the significance of items that cannot be measured in monetary terms (socially responsible company, ethical company, environment-conscious company). The study has shown that both approaches are relevant, and that they actually describe the same factors, although from different viewpoints.

Recognising this fact can help a lot in moving to a different level in the socially responsible company – value maximising company debate. It casts light on the fact that the choice is not between two contrasting theories, our task is much more to set up a system that helps company managers recognise how particular business decisions affect the business value of the firm, and enables them to recognise opportunities of increasing value on this basis that do not influence accounting statements at all or indeed have a detrimental effect thereon.

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