

10. One-off events in the market comparison method

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The aim of the article *One-off events in the market comparison method* is to focus on one-off events occurring in public companies on the basis of which ratios are calculated to estimate companies' value by the market comparison method. The author of the publication tries also to answer how these events should be taken into account in the calculation of market multiples. In the first part of the paper, single economic events are defined, the occurrence of which causes significant changes in the underlying indicators. With the aid of examples from the Polish capital market it is shown what influences the final result of the estimation of the value of a company. Based on a critical review of practical approaches to consider the one-off events in the comparative method and based on the simulation of the variability of the final result of the valuation depending on the adopted approach, the author

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presents a solution to the problem approached in the article. The presented work is an especially important topic from a practical point of view. It complements the company valuation theories in the field of application of the method of market comparisons for estimating the value of the company.

Introduction

Investing is one of the basic human activities in the field of economics (Jajuga and Jajuga, 2006, p. 7), where by investment we shall understand the current renunciation of certain values in order to achieve additional benefits in the future (Hirschleifer, 1965). The economic market investments are considered a necessary condition for company development. However, due to the uncertainty of future projections, making investments carries an inherent exposure to risk with regard to the activities of each entity operating in the economy (Jajuga, 2007, p. 13). That is why it is essential to evaluate all proposed investments before their implementation.

A part of this analysis shall be an attempt to estimate the risk of all new project taken into consideration by company to realize and determine the value of the expected rate of return on its conduct. In order to assess the potential benefits of the implementation of the project a valuation shall be made. K. and T. Jajuga define valuation as finding a fixed value of the object (Jajuga and Jajuga, 2006, p. 8). This approach is consistent with the formula proposed earlier by Sieben, Löcherbach and Matschke who identified it as an assignment of the valuation of a certain object – the object of valuation specified value, usually expressed in the form of a sum of money.

Depending on the nature of an investment: be it physical, financial or intangible, more detailed definitions of valuation are introduced. Business valuation, as defined by Kamela-Sowińska is “a measurement of the value of the company and its assets, and the effects of its decisions to the extent of quality, which will provide the recipient of this information the opportunity to evaluate the results of the actions taken in the past and the selection of a preferred embodiment for the decision in the future” (Kamela-Sowińska, 2006, p. 17). Malevich, in turn, by the valuation of the company understands “the set of operations analysis and calculation designed to determine the value of the company or individual assets in order to perform change of ownership (sale-purchase), structural transformations (making contributions in kind, liquidation company, division, formation of joint ventures),

measurement of property taxes and stamp duty and the other purposes under the provisions of law and the functioning of enterprises, e.g. insurance, presentation of shares on the balance sheet, and the like” (Malevich, 1993, p. 12). These two definitions due to their extent and descriptive nature are not precise, which hinders the possibility of their use. Therefore, in this paper, the term valuation of the company will be understood as each measurement value of the company using financial models (Zadora, 2010, p. 35).

The current theory of valuations of companies includes four basic methods: assets, income, market comparisons and real options. As a criterion for the selection of a particular method one can include: the availability of data, the economic and financial situation of the company and valued measurement objective (Zadora, 2010, p. 89–127).

The method which is most widely used by practitioners to estimate the fair value of the equity of a company is a market comparison method. Among the recommendations of the valuations issued by brokerage houses in the period from 1 January to 30 September 2010, included in the study (Głębocki, Grudziński, Kundera and Sylwestrzak, 2011, p. 579), 222 valuations from 224 were prepared by the market comparisons method. Moreover, regarding the recommendations of brokerage houses concluded from February 2001 to January 2013, comprising 230 valuations of companies listed by 24 brokerage houses¹, it can be noted that all of them were based on the market comparison method. Therefore, significant practical use of the market comparison method justifies further research on improving the efficiency of the estimators of the company found by this approach.

10.1. Market comparison valuation model

A basic assumption in the comparable method of company valuation is the hypothesis that the same assets should be sold on the market at the same price (Szczepankowski, 2007, p. 233). The use of these methods does not require preparing the multi-annual forecasts and determining the value of the various parameters of the model, as in the case of market valuation using the income method of valuation. At the same time, in contrast to the assets method, it is not only based on the financial information contained in the company's balance sheet, but also includes elements of the income

1 55 by Millennium Brokerage House, 34 by BRE Investment House, 25 reports were published by Bank BGZ Brokerage Office and 21 by AmerBrokers SA Brokerage House.

statement and cash flows. Accordingly, these methods are indicated by several authors, as the simplest and most commonly used measurement methods of enterprise value (English, 2001, p. 289).

According to the market comparison valuation model, the value of a company is determined on the basis of information about the values of multipliers from other units, for which a market value is known². The value of a company by comparative methods is determined as follows (Nowak, 2010, p. 14):

$$EC = B \times m \quad (10.1)$$

where: EC – the fair value of the equity of a valued company, m – the multiplier expressing the relation of the market price of comparable companies or selected assets to their economic size, B – the value measured at base category for the company.

The distribution of comparative methods of company valuation is determined by the way of construction of the multiplier to determine the market value of comparable companies. In this study the multiplier is defined as the ratio of price that investors pay for one share of the company to the appropriate economic size (depending on the specific multiplier it may be e.g.: volume of sales, net profit, book value), attributable to the share (Dunal, 2014, p. 4).

In the literature on the valuation theory there is no precise definition of a referential (comparable) company. The analysis of the market comparison method applicable at the biggest Polish Closed Investment Funds³ specializing in private asset management market allows you to enter the following definition of comparable companies (reference):

A company comparable to the valued company is understood as a public or non-public one (whose stocks or shares have been traded in the last three months) that meets all of the following criteria:

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- 2 These are public entities, whose value is determined according to the current exchange rate of their shares or non-state actors, whose shares (stocks, respectively) were the subject of the transaction no earlier than three months before the date of valuation. Specified period due to the quarterly financial reporting system.
 - 3 On the basis of a report prepared on Investment Funds by Online Analytics and the Chamber of Fund and Asset Management in November 2013 (and http://www.izfa.pl/files_user/rap_mies/2013-12-11_fi_aktywa.pdf; access of 1.11.2014). The analysis took IPOPEMA TFI, Copernicus Capital TFI and TFI Forum.

- It operates in the same or a similar industry;
- It shows a similar level of operating efficiency as measured by operating margin (in the range of 30% to 300%);
- It achieves sales revenue within a reasonable range of the scale (between 1/10 and 10 times the value of the company reference);
- It achieves a comparable return on equity of the company (at the level of 30% to 300%).

Depending on the source of information about the market value, two approaches can be mentioned: the market multiples method and the comparable transactions method. In the former technique, the multipliers used for the valuation are constructed based on the current share price of reference entities established on the stock market. In the latter method, the market value of reference entities is determined based on the amount of the transaction (buy/sell) part or all of its shares (and stocks respectively). This transaction does not have to occur on the public market. As a comparable transaction, however, the account sales which were carried out earlier than three months before the date of valuation shall not be considered

The valuation process using market comparisons or comparable transactions may employ indicators which can be constructed according to various criteria. As the basis of the multiplier the following items can be used: net profit, EBIT, EBITDA, the book value of the company, the sales value or volume of cash flow to shareholders. The multipliers in the valuation of the company by market comparisons may also be based on the characteristic sizes of the sector in which the measured company operates, e.g.: EV / number of hectoliters of beer, EV / number of subscribers, EV / number of active users per day⁴. In addition to the financial information used to determine the multipliers, the primary criterion for their division is the source of the valued capital. The first group of indicators (Equity Value) is used to determine the amount corresponding to the equity donors. The second group of multipliers allows us to evaluate the company by all investors. Because of the possibility of constructing an indicator based on practically any financial information included in the financial statements, only those approaches are presented which are most frequently recommended in the literature and have practical applications.

4 Polish Federation Valuers: Common National Valuation Principles (PKZW) Interpretative Note 5 General principles of business valuation, p. 11.

Group of indicators	The design of the multiplier	Description
Equity Value indicators	price to net earnings – P / E	It is the most commonly used relative valuation multiplier, one of the main methods for rapid valuation of listed companies – an important element of the fundamental analysis of shares. The net profit is the most respected accounting synthetic efficiency of the company. It is used mainly for testing the company's potential to generate income.
	price to book net value – P / BV	The net asset value is defined as the difference between the book value and the book value of liabilities. This multiplier is more stable. Compared with earnings multipliers, it can be used when the profits are negative. The main advantage of this index is evaluated to ensure the efficient use of assets.
Enterprise Value indicators	goodwill to EBIT (operating profit) – $EV / EBIT$	EBIT profit shows how a company generates from operations and shows the value of the business in isolation from the capital structure. The principal advantage of this method is the possibility of the valuation of the company in terms of efficiency in the operational area. But it does not allow us to fully consider the company's ability to generate cash flows in all business areas.
	goodwill to EBITDA (operating profit plus depreciation) – $EV / EBITDA$	EBITDA shows a surplus generates by an operating company. This is a very good indicator, whose use is becoming increasingly popular. EBITDA can be also treated as surplus, which is distributed among the creditors, owners, reinvestments needs of the company. Compared to the $EV / EBIT$ multiplier, it allows for the evaluation of companies with substantial assets, with a corresponding high level of depreciation.
	goodwill to sales revenue – EV / S	The $EV / Sales$ multiplier is independent of the capital structure. It can be used even when the P/E and P/BV multipliers cannot be used. This multiplier is a clear measure independent of the adopted accounting principles, but does not account for the levels of profitability.

Table 10.1. Commonly used indicators in the valuation of the comparative method

Source: own.

EV (Enterprise Value) is equal to the sum of the market capitalization of the company (to be fixed by multiplying the current share price and its quantity) and interest-bearing debt, plus the value of equity and net of minority interests held by the company's financial and cash equivalents (Panfil, 2009, p. 85).

Estimating the value of the company by the multiplier can also be carried out by the Q-Tobin method. It is understood as the valuation of the company based on the value of assets (Sudarsan, 1999, p. 150). This method applies a so-called the Tobin's Q coefficient, which corresponds to the relation of the market value of an entity to the replacement value of its assets. If the ratio exceeds one, then the company has intangible assets which, in accordance with the market valuation should contribute to the entity's growth in the future. Due to the inherent difficulty in determining the replacement value of business assets the Tobin Q coefficient can be expressed as the ratio of the market value of equity to book value of the net assets of an entity (Zadora, 2010, p. 83). This way to calculate the company value is however not used in practice as is shown in the study of brokerage houses recommendation.

10.2. Market comparison valuation under one-off events

The widespread use of the market comparison method to estimate the fair value of the company, as it has been already pointed out in the beginning is a consequence of the elimination of the fundamental shortcomings of assets⁵ or income⁶ methods and relatively simple procedure of calculation. The practical application of this method consists of the following steps (Dunal, 2014, p. 6):

- the choice of multipliers used in the valuation⁷, determine the comparative group of companies, for which there are known market values used in the multiples method, according to the criteria outlined

5 Combining the value of the company's assets owned by it (Szablewski and Tuzimek, 2008, p. 144), without taking into account how it is maintained, i.e. Whether it is profitable to have if it brings profit to its owner.

6 Identifying the goodwill of the company with incomes generated by it (Zarzecki, 2008, p. 105–106), require from the valouer to prepare financial projections and to estimate the discount rate for determining the present value of projected cash flows (e.g. The cost of equity for DCF in terms of FCFE), which are risky. Deviation of the actual results of the company from the predicted values and | or the occurrence of the load, or loss of efficiency of the estimator of the discount means that application of this method to estimate the fair value of the company can be mistaken.

7 In accordance with: National Common Valuation Principles (PKZW) Interpretative Note 5 General principles of business valuation p. 10 valuation should not be based solely on sartorial multipliers. It is recommended that there should be taken into account in the valuation of at least two indicators on the basis of different design, e.g. Based on the market value of the transaction concluded on the public market and the value of the entire company.

in the previous section. In practice, you should try to make as large a group as possible, but not less than two-piece,

- the determination of multipliers for the comparison group and calculate the average level. Calculations of the values of the individual multipliers should be prepared for each of the companies included in the reference group on the basis of prices at the valuation date. To determine the average multipliers most cases there is used the median, which is less sensitive to extreme⁸ values in relation to the arithmetic mean,
- calculate the value of the company,
- introducing adjustments as needed such as discount and premium.

Discounts and premium changes in the field of company value (Byrka-Kita, 2013, p. 13–23, 41–53) are introduced mostly due to the lack of liquidity, the different scales of activity between the valued companies and references, and the diversity in their business models⁹.

In addition to determining the value of discounts and premium included in market comparisons method toughest and the most discussed problem is the choice of reference entities. Among the public companies there would not be two enterprises similar in all respects one another. These differences may occur both at the level of a financial, business, scale of operations, sources of financing, but also in the form of unmeasured value¹⁰ that deferrable companies in terms of their potential development in future, and also in the category of value.

Assuming that you have selected a group of companies comparable to the valued company and established a valuation multiples, you can prepare the calculation of their value. Ratios are determined based on the financial information of reference companies (preferably covering the period of the last four quarters ending prior to the date of valuation) and the closing price of the valuation date.

Multipliers of each type are calculated in the same manner, as follows: the ratio of the respective economic size of the company or its exchange rate to a specific business or financial information for the feature size of its activities (e.g. Number of hectoliters of fuel, or the amount of transported tons of cargo for the shipping company). For example, the rate of:

8 Extreme values, i.e. that differ significantly from the average level, should not be fully taken into account, as they can cause the load (underestimation or overestimation) of valuation.

9 E.g. sales of manufactured products through its own distribution network or by using franchise facilities.

10 E.g. the intellectual potential managers and/or other team staff.

P/BV is calculated as the closing price on the valuation date fixed for the book value of equity¹¹ per share.

P/S is determined as the quotient of the share price valuation to sales revenue per single share.

EV/S is determined by dividing the value of the company to sales per share, the company's market capitalization¹² plus interest-bearing debt and minority shareholders capital¹³ of the company minus cash and its equivalents.

Each financial indicator used in the comparative valuation has its interpretations in terms of investment. The general principle, however, is the same for each of them. If the value of a ratio is higher, then the benefits from investments in shares of the company measured by this indicator are lower. For example, if the value of the index¹⁴ P/E equal M means that by purchasing these securities we pay M monetary units for each unit of net profit of the company. In other words, the expected 1/M rate of return on the investment is or that the investment will pay for itself after M years.

Each multiplier is calculated based on the financial information for the last twelve months before the date of the valuation¹⁵ and closing price of company shares established at the valuation date (or as close as possible to that date). Because of this time interval, the share price received to determine market indicators takes into account the occurrence of events that have not yet been included in the financial results. Such situations can both cause underestimation and overestimation of calculated multipliers. For example, the publication of information on the significant destruction of the company's assets, for example in a fire, will immediately¹⁶ cause the fall of the shares

11 Determined on the basis of the last balance sheet of the company prepared before valuation.

12 Determined as the product of the number of shares and the price of its single paper.

13 Is determined by the need to increase by the company's minority shareholders results directly from the definition of the carrying amount the item, i.e. of the net assets of the subsidiary included in the consolidated financial statements, which belongs to shareholders other than the entities of the group (Art. 3. 46 of the Accounting Act).

14 And in the denominator of this ratio should be taken net profit achieved in the last twelve months ending prior to the date of valuation, attributable to equity holders of the parent (in other words, there should be excluded the part of the profit (respectively loss) attributable to non-controlling interests).

15 For the sartorial indices, taking into account information specific to a particular industry, e.g. The number of active users for the telecommunications industry.

16 The assumption that information on the market is equally available to all participants and that they include this information immediately in their investment strategy in the literature is defined as the efficiency of the market (Fama, 1970, p. 383–417) and is

prices. This change will not be visible in the financial information based on which the indicator is calculated. Accordingly, the value P/BV is lower than it should be. It follows from a decrease in the value of the counter: price fixed, following a reduction in the value of assets of the company as a result of the destruction, in the absence of changes in the denominator in computing per share, which does not involve the loss of property. An event that causes the opposite effect to the above can be, among other things: winning litigation on high amount for which in the financial information was established financial reserves.

In general, the occurrences of situations of significant value, which are repetitive, will be called one-off events¹⁷. This category includes both events which are difficult to predict and also predictable situations, such as: dividend payments, issuance of shares, or conversion of debt into securities. The calculated level of the multiplier in the case of the occurrence of one-off events can be either overestimated or underestimated, depending on its nature. As a consequence, a company's value estimated by market comparison method can be incorrect. To minimize this risk, it is necessary for all one-off events, to determine their impact and an adjustment of the output level of the financial data of reference entities.

In the case of random one-off events due to their unpredictability it is not possible to provide universal way of considering them in the calculation of the impact of market multiples. Therefore, in the rest of the work under consideration there will be only one-off events arising in connection with the payment of dividends and the new issue of shares. In the first case an adjustment is necessary when investors are not entitled to get dividends, their value not having been included yet in the financial information used to calculate the multiplier. The chart below shows the time interval when the change in the calculation of multiples should be made, for example for Unibep SA.

divided into distinguished three forms of informational efficiency: weak, semi-strong and strong, which specify the type of information to which the market reacts. The hypothesis of market efficiency in the theory of valuation is adopted, inter alia, in the CAPM.

- 17 This concept is wider than the accounting category – which defines extraordinary events as the financial impact of unpredictable events arising outside the operating activities of the entity and not related to the general risk of running, in contrast to that one-off event we will treat every situation of significant value, regardless if it occurs with varying frequency and whether it is connected with company activities or not.

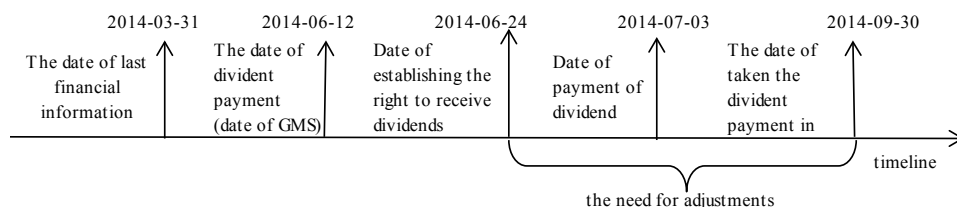


Figure 10.1. The interval, of necessity of correction for the payment of dividend
Source: own.

The second correction due to the issuance of shares (or conversion of debt into shares) should be placed in a situation where the issue (conversion) occurs between the valuation date and the date of preparation of financial information used to calculate the index. Graphically this area of need for change in the calculation of market multiples (for example for Marvipol SA) are presented in the chart below:

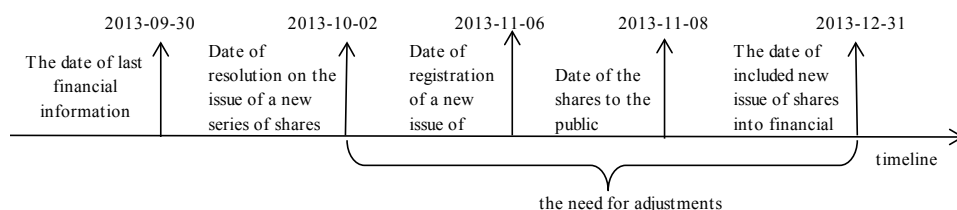


Figure 10.2. The interval, of necessity of correction for the issue of shares
Source: own.

In addition, if between the date of preparation of the financial statements and the date of company valuation there occurs a split¹⁸ or respite¹⁹ of shares of the reference companies to be calculated the multiplier should be considered correct (after the split or respite i.e. the current) number of shares of the company, not the quantity indicated by the reference entity in the last published report.

¹⁸ Also called the distribution of the shares. This is an operation carried out by a joint stock company, which consists in the fact of lowering of the nominal value of the shares with the same amount of share capital (Jajuga, 2006, p. 11).

¹⁹ Otherwise reverse stock split. This action is contrary to split, it is characteristic for a joint stock company and it serves to increase the nominal value of the shares, while maintaining the same amount of share capital.

In the next section of this article there will be proposed authoring proposal to introduce corrections due to the payment of dividends and the issue of shares by comparable companies to the calculation of the indicators for market comparison method.

10.3. The impact of one-off events on the result of estimation

The main purpose of the issue of shares by the company is to raise capital for further development of its business (Kachniewski et. al., 2008, p. 85). Companies which have already been present on the public market can make further issues to raise additional capital, but also to reward managers (managerial issue), or all employees (employee issue). Regardless of the factors that make a company decides to issue new shares, it results in increase of company founding in amount equal to the product of the number of issued shares and the issue price²⁰ of a single paper. On the liabilities side the share capital will increase by the amount equal to the nominal value of the issued shares and reserve capital in a value of the excess of the issue price over the nominal value-agio. If, raising a capital is gained through the conversion of debt into shares there will be a change in company capital as in the previous case in company capital and in company liabilities of the company, which are decreased by the part of the debt, which is converted into shares. To sum up the issue of shares (depending on the specific) causes an increase in the company's equity and short-term investments²¹ (reduction of debt for the conversion of debt into securities of the company). According to the market efficiency assumption, the occurrence of such events is immediately reflected in the company shares price. Therefore, for the correct calculation of market multiples for such an entity should be made adjustments in its financial statement. Assuming that reference company issues of n shares at a price p PLN for each, there should be made the following adjustments in the rolling²² financial statements:

$$\begin{aligned} \text{cash after adjustment} &= \text{cash before adjustment}^{23} + \\ + np \text{ equity after adjustment} &= \text{equity before adjustment} + np \end{aligned} \quad (10.2)$$

20 On the assets side if the payment of the nominal value of shares is paid in a non-cash way it will result in changing of different position depending on the kind of contribution.

21 Or other items of assets depending on the way of contribution.

22 Including last twelve months closed at the end of the last quarter before valuation.

23 In the event of the conversion of debt:

debt of the company after adjustment = liabilities of the company before adjustment – p .

At the same time the number of shares should be taken at their current (at the valuation date) basis. In the following tables there will be presented the value of selected multiples in three variants:

- for the corrected financial statement and the current number of shares,
- for uncorrected financial statements and number of company shares at the valuation date,
- acceptance of the number of shares from the company's most recent financial statements, while there are not taken into account adjustments.

Name of the Company	EV / S	P / BV	EV / EBITDA	P / E	P / S	Date of share price	Number of shares in millions
Marvipol S.A.	1.36	0.95	10.82	7.51	0.54	2013-11-20	41.55
Próchnik S.A.	1.35	0.92	10.73	6.67	0.48	2013-11-20	310.73
Unibep S.A.	4.19	1.81	28.01	36.02	4.67	2013-06-30	34.19
Rovese S.A.	4.09	1.88	27.71	32.74	4.24	2013-02-28	811.44
Grupa Azoty S.A.	0.28	1.59	8.79	19.11	0.31	2013-02-28	99.20

Table 10.2. Corrected financial statement and current number of shares

Source: own.

Name of the Company	EV / S	P / BV	EV / EBITDA	P / E	P / S	Date of share price	Number of shares in millions
Marvipol S.A.	1.41	1.04	11.20	7.51	0.54	2013-11-20	41.55
Próchnik S.A.	4.52	2.07	30.58	36.02	4.67	2013-11-20	310.73
Unibep S.A.	0.28	1.60	8.81	19.11	0.31	2013-06-30	34.19
Rovese S.A.	1.02	0.71	10.49	-23.95	0.90	2013-02-28	811.44
Grupa Azoty S.A.	0.91	1.85	10.55	19.38	0.80	2013-02-28	99.20

Table 10.3. No corrected financial statement and current number of shares

Source: own.

Name of the Company	EV / S	P / BV	EV / EBITDA	P / E	P / S	Date of share price	Number of shares in millions
Marvipol S.A.	1.35	0.92	10.73	6.67	0.48	2013-11-20	36.92
Próchnik S.A.	4.09	1.88	27.71	32.74	4.24	2013-11-20	282.48
Unibep S.A.	0.28	1.59	8.76	19.02	0.30	2013-06-30	34.02
Rovese S.A.	0.44	0.26	4.56	-8.59	0.32	2013-02-28	291.17
Grupa Azoty S.A.	0.62	1.20	7.25	12.52	0.52	2013-02-28	64.12

Table 10.4. No corrected financial statement and the number of shares at the date of preparation of last financial information

Source: own.

Comparing the level of multipliers depending on how they were calculated it can be noted that there is a considerable differences between them. The adoption of the current number of shares without making any additional changes causes: that P/E and P/S are not loaded. Multipliers calculated under this approach shows that they have higher values compared to the multipliers set on the adjusted financial information. Consequently, it would also inflate the final assessment of the value of the valuated company. Of course, this discrepancy depends on the value of the issued shares. The higher it is, the greater will be the difference in question. The following table shows the percentage change in multipliers determined on the basis of the adjusted financial information to indicators calculated based on uncorrected financial information.

Name of the Company	EV / S (%)	P / BV (%)	EV / EBITDA (%)	P / E (%)	P / S (%)	The value of emissions in million PLN
Marvipol S.A.	-3.41	-8.48	-3.41	0.00	0.00	20.83
Próchnik S.A.	-7.33	-12.82	-8.40	0.00	0.00	9.04
Unibep S.A.	-0.18	-0.26	-0.18	0.00	0.00	0.45
Rovese S.A.	-50.98	-29.25	-50.98	0.00	0.00	868.24
Grupa Azoty S.A.	-23.94	-33.41	-23.94	0.00	0.00	1 543.52

Table 10.5. The effect of adjustments to the value of the multiplier for the same number of shares

Source: own.

A change in the standard approach to calculate the market multiples due to the payment of dividends, as I have already pointed out, it is necessary when the purchaser of a share does not get the right to receive dividends, and its payment was not included in the financial information²⁴ used to calculate the indicators. The decision on dividend payment (without the right to receive it) is reflected in the current share price²⁵ of the reference entity. The impact of this event (D by the amount of money which will be paid to shareholders – dividend) therefore it should be included in the financial results of the company, as follows:

$$\begin{aligned} &\text{cash and cash equivalents after adjustment}^{26} = \\ &= \text{cash and cash equivalents before correction} - D \quad (10.3) \\ &\text{equity after adjustment} = \text{equity before correction} - D \end{aligned}$$

The following tables present the conditions of the payment of dividends and the impact of adjustments in this field an example of few polish public companies, as follows:

Name of the Company	The dividend of millions	Date of adoption of the resolution on the payment of dividends	Date of entitlement to the dividend	Date of payment of dividend
Wawel S.A.	30.00	2014-05-12	2014-05-12	2014-06-03
Budimex S.A.	302.53	2014-04-24	2014-05-06	2014-05-21
Żywiec S.A.	133.53	2014-04-24	2014-05-08	2014-05-22
Pekao S.A.	2 614.20	2014-06-12	2014-06-18	2014-07-04
LPP S.A.	169.39	2014-09-25	2014-09-05	2014-09-25

Table 10.6. Information on dividend payment

Source: own.

24 E.g. the company did not pay shareholders advances on future dividends, or has not established obligations for the payment of future dividends.

25 Which is lower than in situation when by purchasing shares investor can receive a dividend, which would be a part of the return on such an investment.

26 When the value of the dividend paid to shareholders exceeds the accumulated funds of the company at the date of the last financial information, the negative value of cash means that the company incurring additional debt or finance a part of the payment to the shareholders from current activity. From the point of view of the accounting designation of indicators such situation does not cause any conflict.

Name of the Company	EV / S	P / BV	EV / EBITDA	P / E	P / S	Date of share price
Wawel S.A.	2.41	4.13	13.13	18.69	2.52	2014-06-30
Budimex S.A.	0.43	8.36	5.52	9.94	0.65	2014-06-30
Żywiec S.A.	1.47	27.43	11.45	15.65	1.13	2014-06-30
Pekao S.A.	5.64	2.13	13.73	16.60	5.02	2014-06-30
LPP S.A.	4.09	13.70	22.31	40.29	3.98	2014-09-30

Table 10.7. Multipliers calculated for adjusted financial statement for the payment of dividend
Source: own.

Name of the Company	EV / S	P / BV	EV / EBITDA	P / E	P / S	Date of share price
Wawel S.A.	2.36	3.82	12.86	18.69	2.52	2014-06-30
Budimex S.A.	0.37	4.58	4.71	9.94	0.65	2014-06-30
Żywiec S.A.	1.43	14.15	11.14	15.65	1.13	2014-06-30
Pekao S.A.	5.36	1.90	13.03	16.60	5.02	2014-06-30
LPP S.A.	4.05	12.13	22.11	40.29	3.98	2014-09-30

Table 10.8. Multipliers calculated for not adjusted financial statement for dividend payment
Source: own.

Comparing the values of multipliers calculated for adjusted financial information with the payment of dividend to indicators calculated normally we get:

Name of the Company	EV / S (%)	P / BV (%)	EV / EBITDA (%)	P / E (%)	P / S (%)
Wawel S.A.	2.13	8.22	2.13	0.00	0.00
Budimex S.A.	17.32	82.52	17.32	0.00	0.00
Żywiec S.A.	2.71	93.83	2.71	0.00	0.00
Pekao S.A.	5.37	12.18	5.37	0.00	0.00
LPP S.A.	0.93	12.96	0.93	0.00	0.00

Table 10.9. The difference between the multipliers adjusted and not adjusted for dividend payment
Source: own.

Indicators P/E, P/S are insensitive to the way of accounting also for this kind of one off event. It is of course a consequence of their design. In practice it should be remembered to use consolidated financial information and cash flows attributable to the parent company, e.g. for the position of net profit²⁷. For other indicators the difference depends on the size of the dividend payment. A particularly significant impact it has on P/BV.

Conclusion

When applying the market comparisons method to estimate the fair value of the equity of a valuated company, you should keep in mind that it is based on the assumption that the assets of a similar nature should have a similar price. In reality, however, due to the different way of development of each company, potential of employees and managers, the scale of operations, business model, etc. it is not possible to find two similar companies. That is why the company value estimated accordance to market multiple method is loaded from the beginning. Basis on the examples presented in this paper if we do not include corrections in financial statement of references companies connected with occurrence of one-off events we can get even more unmatched valuation.

In practice, during the valuation it must be remembered that the absence of adjustment due to the new issue of shares will gives us overestimation of the value of multipliers. The lack of adjustment for the payment of a dividend in turn gives us understatement of market indicators. Resistant indicators, i.e. those which will not change due to the above mentioned one-off events are P/E and P/S. As a result of the research I recommend to include those multipliers in the final estimate of the value of the company. It is important however, to have in mind recommendations of the National Common Principles of Valuation (PKZW) to market comparison method has to be based at least on two different groups of indicators. Examples presented in this paper show that the omission in the calculation of multipliers one-off event such as dividend payments or issue of new shares has a significant impact on their final value. Therefore, it is especially important to check how the market indices are calculated in the case when we use predefined multipliers values published by the financial agencies, such as: Bloomberg, Morningstar, MSN, etc.

27 In this case as the basis for *E* should be taken net profit attributable to equity holders of the parent, because only this profit/earnings will be entitled to investors in connection with the acquisition company shares.

References

- Byrka-Kita K. (2013), *Dylematy szacowania premii z tytułu kontroli w wycenie przedsiębiorstwa*, CeDeWu, Warszawa.
- Dunal P. (2014), *Rynkowe metody wyceny przedsiębiorstw*, (in:) *Future of Finance. Część II. Przyszłość finansów przedsiębiorstw i ubezpieczeń*, "Folia Oeconomica", Vol. 2, No. 300.
- English J.R. (2001), *Applied Equity Analysis*, McGraw-Hill, New York.
- Fama E.F. (1970), *Efficient capital market: A review of theory and empirical work*, "Journal of Finance", Vol. 25, p. 383–417.
- Głębocki M., Grudziński M., Kundera M., Sylwestrzak M. (2011), *Studium metody wyceny przedsiębiorstw stosowanej w rekomendacjach giełdowych*, Zeszyty Naukowe Uniwersytetu Szczecińskiego No. 639, Finanse, Rynki Finansowe, Ubezpieczenia No. 37, Szczecin.
- Hirschleifer J. (1965), *Investment Decision under Uncertainty: Choice – Theoretic Approaches*, "Quarterly Journal of Economics", Vol. LXXIX, November, No. 4.
- Jajuga K., Jajuga T. (2006), *Inwestycje. Instrumenty finansowe, ryzyko finansowe, inżynieria finansowa*, Polskie Wydawnictwo Naukowe PWN, Warszawa.
- Jajuga K. (2007), *Zarządzanie ryzykiem*, Polskie Wydawnictwo Naukowe PWN, Warszawa.
- Jajuga K. (2006), *Akcje i instrumenty pochodne*, Seria Anatomia sukcesu. Instytucje i zasady funkcjonowania rynku kapitałowego, Fundacja Edukacji Rynku Kapitałowego, Warszawa.
- Kachniewski M., Majewski B., Wasilewski P. (2008), *Rynek kapitałowy i giełda papierów wartościowych*, Fundacja Edukacji Rynku Kapitałowego, Warszawa.
- Kamela-Sowińska A. (2006), *Wycena przedsiębiorstw i ich mienia*, Wyższa Szkoła Handlu i Rachunkowości, Poznań.
- Malewicz A. (1993), *Zarządzanie finansami w przedsiębiorstwach państwowych i spółkach*, cz. 1: *Sprawozdawczość i analiza finansowa, zarządzanie kapitałem*, IOiZwP "Orgmasz", Warszawa.
- Nowak M. (2010), *Wycena przedsiębiorstw*, Centrum Edukacji Ekspert, Warszawa.
- Panfil M. (2009), *Wycena biznesu w praktyce*, Poltext, Warszawa.
- Sieben G., Löcherbach G., Matschke M.J. (1974), *Bewertungstheorie*, (in:) E. Grochla, W. Wittmann (eds.), *Handwörterbuch der Betriebswirtschaft*, Band 1, 4, Stuttgart, sp. 841–845.
- Sudarsanam S. (1999), *Fuzje i przejęcia*, WIG-Press, Warszawa.
- Szablewski A., Tuzimek R. (2008), *Wycena i zarządzanie wartością firmy*, Poltex, Warszawa.
- Szczepankowski P. (2007), *Wycena i zarządzanie wartością przedsiębiorstwa*, Wydawnictwo Naukowe PWN, Warszawa.
- Zadora H. (2010), *Wycena przedsiębiorstwa w teorii i praktyce*, Stowarzyszenie Księgowych w Polsce, Warszawa.
- Zarzecki D. (2008), *Indeks ryzyka w wycenie przedsiębiorstw*, Szczecin.