SHAREHOLDER VALUE CREATION IN POLAND. VALUE BUILDING AND ITS TRANSFER TO SHAREHOLDERS IN COMPANIES LISTED ON WARSAW STOCK EXCHANGE

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ABSTRACT. The core research of the current paper is focused on the value-based management concept (VBM), which developed around the definition of the enterprise's objective as shareholder value maximization or shareholder value creation. The study deals with the issue of performance measurement within the VBM concept and presents the findings of the research conducted on non-financial companies listed on Warsaw Stock Exchange. The results of the study show that the Warsaw Stock Exchange non-financial listed companies, in average, did not build value. This indicates that their returns on equity (ROE ratios) did not cover the cost of capital. Regarding the value transfer, the results indicate that this transfer took place, in average, only during 2013; for the 2011 and 2012 the total shareholder return generated by the respective companies was lower than expected. However, the results indicate a large diversity among the analyzed companies in terms of REP and CSV spread. Thus, in the end, the data indicates low correlation between the value building process and value transfer for 2011 and 2012, and a moderate correlation for 2013.

Keywords: performance measurement, value-based management, value creation, build-sustain-transfer framework, value transfer, relative economic profit, created shareholder value spread.

JEL Classification: G12, G30

1. Introduction

The core research of the current paper is focused on the value-based management concept (VBM), which developed around the definition of the enterprise's objective as shareholder value maximization or shareholder value

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creation[2]. The study deals with the issue of performance measurement within the VBM concept and presents the findings of the research conducted on non-financial companies listed on Warsaw Stock Exchange (WSE). The aim of the study is to find out whether the companies listed on WSE create value for their shareholders. The idea of the study derives from three-phase value creation model, i.e. the build-sustain-transfer framework. The abovementioned question was addressed in two stages: first – it was investigated whether the WSE listed companies build (and sustain) value; second – it was examined if the respective companies transfer value to their shareholders.

Building value creation research into the build-sustain-transfer framework is something new in studies of that kind. The author would like to emphasize that the last phase in value creation process (value transfer) is as much important as the other ones. It seems that the meaning of this phase is underestimated in VBM concept. During the third stage of the study the relations between the results of the value building and value transfer in non-financial companies listed on WSE are being examined.

Building value creation research into the build-sustain-transfer framework is a new approach within this category of studies. Within the current paper the author emphasizes that value transfer, the last phase in the value creation process, has the same importance as the previous two phases. Until now within VBM concept the importance of this third phase was underestimated. The third part of the current study stresses this importance through the investigation of the relationship between the results of the value building and value transfer of non-financial companies listed at WSE[3].

The following metrics of value creation were used: the economic profit-based (EP-based) metrics were used for the first stage of the study, measuring the results of the value building process; the total shareholder return-based (TSR-based) metrics were used for the second stage of the study, as measures of value transfer. For the third stage of the study, the correlation was used.

The present papers add to the academic literature the following results: it describes the value creation process for the companies listed at WSE and uses a new grouping of value creation measures. The research conducted includes the critical analysis of academic literature and the appropriate methods for the empirical study.

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[2] Jensen named the objective of an enterprise within VBM concept "value seeking" (Jensen, 2001).

[3] Financial companies were excluded from the study due to a different pattern of reporting, which would give results incomparable to the performance of non-financial companies within the adopted methodology.

2. Performance measurement within value-based management (VBM) concept

The VBM concept of an enterprise performance measurement is connected with the characteristics of value creation process. According to Black et al. (2000), and Michalski (2001), three phases can be identified within the process of shareholder's value creation: 1) the value building, 2) the value sustaining, and 3) the value transfer (also called value realization).

The first two phases of value creation process, value building and value sustaining, can generate high cash flows; at least these cash flows can be high enough to induce a rate of return higher than the cost of capital. The third phase, generally, can be reached through dividend payment and increase of market value (Ross et al., 1997). This third phase is crucial for shareholders. Without the completion of this third phase, it is impossible to fully analyze the shareholder value creation process.

Performance measurement is the center point of the VBM concept. Numerous metrics have been developed and, according to their authors, those metrics measure whether a company is creating value or not. Within the present paper we propose a systematization of these metrics, taking into consideration the build-sustain-transfer framework. Most of these metrics aim to measure the increase in a company's value over a given period of time[4]. Actually, they are metrics of a change in corporate value. Within this category the following metrics can be included: economic value added or EVA (Stewart, 1991), and other types of EP-based metrics, along with other measures dealing with economic profit, such as CFROI (cash flow return on investment) and CVA (cash added value) as proposed by Madden (1999), shareholder value added or SVA (Rappaport, 1998), or Swedish cash value added (Ottosson & Weissenrieder, 1996; Weissenrieder, 1998). Another group of metrics tries to investigate whether a company transfers the corporate value to the shareholders or not. This group includes created shareholder value or CSV (Fernandez, 2001; Fernandez & Reinoso, 2001), shareholder economic value added or SEVA (Michalski, 2001) and other total shareholder return-based metrics.

Based on the findings of the studies mentioned above, we can claim that the metrics from the first group, respectively EVA, EP, CVA, and SVA are actually measures of corporate value building and sustaining, while the metrics from the second group, CSV, SEVA, measure the corporate value transfer.

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[4] For this paper we disregard the value measurement at a given moment, which is the domain of corporate valuation and we will focus on the measurement of the value change over a given period, which is the domain of performance measurement within VBM concept.

Earlier studies on the topic of performance measurement concentrated mainly on confronting different types of value metrics against market value or market returns (e.g. Lehn & Makhija, 1996; Chen & Dodd, 2001; Kramer & Pushner, 1997; Biddle et al., 1999; Elali, 2007). Previous studies on Polish companies focused mainly on the topic of their ability to create value (e.g. Cwynar & Cwynar, 2002; Cwynar 2010). The research results of the present study add to the existing literature the confirmation of non-financial WSE listed companies abilities regarding value creation, and the new approach of incorporating these results into the build-sustain-transfer framework, linking all the phases of value creation process and examining the connections between them.

3. The empirical study

3.1. General information

The empirical part of the study includes only the non-financial companies listed on WSE (main floor, continuous trading system). Through the current research we aimed to answer the following questions: a) do the respective companies build corporate value? b) do those companies transfer corporate value to their shareholders? c) is the value building process correlated with the value transfer to shareholders?

Relative economic profit (REP) metric was used to measure the results of value building process. As a measure for value transfer, the created shareholder value spread (CSVspread) metric was designed[5]. The relationship between REP and CSVspread was measured using Pearson's correlation coefficient (Pearson's r).

The study involved data sets collected for three years: 2011, 2012 and 2013. For each of these years a cross-sectional research was conducted, based on the data of non-financial companies listed on the WSE.

The data used in this study come from different sources. The stock quotations of companies were downloaded from the stooq.pl database. This database provides both "raw"' stock prices, as well as adjusted quotations, taking into account various events concerning the stock (dividends, splits etc.). The calculations were based on adjusted stock quotations of WSE listed companies, containing adjusted price, dividends, split, pre-emptive right etc. information for analyzed securities. For the study, weekly and annual stock prices were considered.

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[5] The difference between total shareholder return and cost of capital is named also abnormal return, excess return, economic spread or performance spread. The name used in the article (CSVspread) is supposed to stress connection with created shareholder value defined by Fernandez (2001). See also formula (6).

The time range of the data used covers the period from the first quotation of each stock to the end of December 2013. Based on this data, the components of both metrics (REP and CSVspread) were calculated, i.e. beta coefficients used in estimating the cost of equity as well as total shareholder return, being a CSVspread component.

The financial statements of all non-financial listed companies were obtained from the Notoria database. This data was used for calculations of REP components, as well as for assigning company to sector and the system of trading. Data was downloaded in April 2014; therefore some financial statements are denoted as pre-official.

Some non-financial companies were excluded from the research material for the following reasons:
- period of quotation – a principle was adopted, that company participating in the study in a given year has to be quoted for at least one year; this assumption was made in order to achieve reliable beta estimations;
- lack of data in the financial reports – some of the financial reports were unavailable in Notoria database for some years;
- accepted methodology – due to accepted methodology some companies with negative book value of equity were excluded from the research material; including these companies into the research material would cause the outlying observations, incomparable with other results (significant overstatement or understatement of returns in terms of REP – positive net income and negative equity could cause negative return or substantial negative REP incomparable with other companies; otherwise negative net income and negative equity could cause substantial positive or negative REP incomparable with other entities);
- outliers – similar to the latter reason, some of the results significantly diverge from the others e.g. due to generating losses by a few consecutive years, which resulted in a very low (even approaching zero) book value of equity; as a consequence outliers can be observed, which are incomparable with other entities.

Taking into account the exclusions described above following numbers of companies were examined:
- in 2011, 348 companies;
- in 2012, 374 companies;
- in 2013, 309 companies.

Referring to the issue of inference on the basis of the research results, it should be stated, that on the one hand, the study relates to the entire

population of non-financial companies listed on the WSE with the relevant exclusions (Gruszczyński, 2012). On the other hand if we treat examined groups of companies as samples selected from the population of all enterprises in Poland, it should be noted, that those samples were selected in nonprobabilistic way, although the type and scope of the research justify the selection of the sample (Nowak, 2007). It has to emphasizes, however, that inference about the population (understood as above) was not the intention of the author. The results refer only to the analyzed groups of companies and won't be generalized.

3.2. Methodology

The study has been structured in three stages. The first stage consisted of measuring the results of value building process using REP for the selected companies in 2011, 2012, and 2013. Within the second stage, the results of value transfer to shareholders were measured using CSVspread for the same period. Third stage included the correlation analysis between the phases of value building and value transfer for the same period, using Pearson's r coefficient.

Cross-sectional studies were conducted for each of the three years. Relative metrics were used to allow for comparisons between companies of different size.

REP (relative economic profit) was calculated using the following formula:

$$REP_t = EP_t / E_{begt} \qquad (1)$$

where:
REP_t – relative economic profit in period t;
EP_t – economic profit in period t;
E_{begt} – book value of equity in the beginning of period t.

EP was computed according to following formula:

$$EP_t = NI_t - k_t \times E_{begt} \qquad (2)$$

where:
EP_t – economic profit in period t;
NI_t – net income in period t;
k_t – cost of equity in period t;
E_{begt} – book value of equity in the beginning of period t.

Different formulas of economic profit estimation are used. The formula based on net operating profit after tax or NOPAT, taking into consideration the weighted average cost of capital and the invested capital, seems to be the most

popular being widely used in economic added value estimations (e.g. Young & O'Byrne, 2001; Stewart, 1991). Such a formula enables the company's evaluation regardless of non-operating and extra-ordinary items; making is suitable as a base for managers' compensation program. It is also considered an appropriate measure, which can be computed for various divisions of a company (Gillan, 2004; Young & O'Byrne, 2001). For this study, the traditional formula of economic profit calculation was chosen (McTaggart, 1994; Arnold et al., 2000); it is based on net income and related to the cost of equity and equity capital. This alternative was chosen mainly because it captures the whole result of the company's activity. Moreover, formula (2) is more suited given the financial data available for the companies under investigation. According to recommendation of Stewart (2002) in formula (2) book value of equity was used.

Net income and equity were extracted from the financial reports of Notoria data base. The net income for companies during the change of accounting period was normalized, as follows:

$$nNI = rNI \times (12/NoM) \tag{3}$$

where:

nNI – normalized net income;

rNI – "raw" net income (for a period longer or shorter than 12 months);

NoM – number of months when the accounting period was changed (e.g. a 15 months period when the balance-sheet date was moved from December 31 to March 31).

The cost of capital (equity) was estimated based on capital asset pricing model (CAPM):

$$k_t = r_f + \beta (r_m - r_f) \tag{4}$$

where:

k_t – cost of equity in period t;

r_f – risk-free rate of return;

β – beta coefficient;

$r_m - r_f$ – market risk premium.

For the risk-free rate of return an average yield to maturity of five-year Polish treasury bonds was taken into consideration, using as a main source MAKROscope for 2014, 2012, 2011, 2010. This proxy for the risk-free rate of return is recommended by various authors (e.g. Damodaran, 2002; Brigham & Gapenski, 1993). The market risk premium was estimated based on Damodaran's data sets (Damodaran, 2014).

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The beta coefficient was estimated for each company separately. As base for beta estimation were the weekly logarithmic rates of return; these were computed using the adjusted stock quotations downloaded from the stooq.pl database. The adjusted stock quotations take into account various events concerning the stock as dividend, splits etc. For every company and in each of analyzed years the beta coefficient was calculated based on the weekly returns for the period covering the IPO (first quotation) until the end of an analyzed year. In the case of companies with accounting period which does not coincide with a calendar year, beta coefficient was calculated for the period covering the accounting period (in order to maintain comparability of REP with CSVspread). Beta coefficient was estimated according to the following formula:

$$\beta = cov\ (r_i, r_m)\ /\ var\ (r_m) \tag{5}$$

where:
$cov\ (r_i, r_m)$ – covariance of stock returns and market portfolio returns;
$var\ (r_m)$ – variance of market portfolio returns.

As a proxy for market the WIG index (Warsaw Stock-Exchange Index) portfolio was considered.

In the second stage of the study created shareholder value spread (CSVspread) for each of the analyzed companies was calculated. CSVspread was estimated according to the following formula:

$$CSVspread = TSR_t - k_t \tag{6}$$

where:
TSR_t – total shareholder return in period t;
k_t – cost of equity in period t, estimated as mentioned above.

Total shareholder return or TSR was estimated based on the end-of-the-year quotations for each company separately. TSR was computed as logarithmic rate of return based on the adjusted stock quotations downloaded from the stooq.pl database. For the companies with the accounting period different from the calendar year, TSR and cost of equity were calculated for the accounting period in order to maintain the comparability of REP with CSVspread.

3.3. Results and discussion

Table 1 presents the basic statistic for the relative economic profit in analyzed years.

Table 1.

Basic statistics of non-financial companies listed on WSE for REP in 2011, 2012 and 2013

Year	2011	2012	2013
Number of observations	335	364	303
Average	-0,017579	-0,034525	-0,022486
Median	-0,034922	-0,049830	-0,034044
Minimum	-1,46935	-2,00451	-2,38980
Maximum	2,506356	4,209312	1,273490
Standard deviation	0,262729	0,371793	0,278620
Skewness	2,664477	5,234261	-2,83139
Kurtosis	29,57668	62,35286	28,29492

(Source: own elaboration)

Analysis of the data in the table 1 shows that taking into account both average and median analyzed companies didn't build value. It means that returns on equity generated by those companies did not cover the cost of that capital. The standard deviation indicates rather large diversity of analyzed companies in terms of value creation. For 2011 and 2012, the distribution of the results of the analyzed companies is characterized by positive skewness, which means the right-sided asymmetry. In 2013 there is the left-sided asymmetry. In all years the distribution of REP is leptokurtic[6].

Table 2 presents the basic statistic for the created shareholder value spread in analyzed years.

Table 2.

Basic statistics of non-financial companies listed on WSE for CSVspread in 2011, 2012 and 2013

Year	2011	2012	2013
Number of observations	335	364	303
Average	-0,588010	-0,087402	0,088371
Median	-0,576025	-0,044752	0,083500
Minimum	-1,90219	-2,70336	-2,37425
Maximum	0,921109	1,573433	1,656783
Standard deviation	0,441289	0,491154	0,582068
Skewness	-0,026278	-0,952246	-0,85949
Kurtosis	0,30906	2,98989	2,41140

(Source: own elaboration)

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[6] Unfortunately, limited size of the article makes it impossible to present more detailed results of value creation in companies listed on WSE (e.g. divided in accordance to business sectors affiliation). It will be the subject of subsequent publications of the author.

Analysis of the data in the table 2 shows that taking into account both average and median in 2011 and 2012 analyzed companies didn't transfer value to their shareholders. It means that the total shareholder return generated by those companies was lower than expected. Different situation occurred in group of analyzed companies in 2013. On average, the analyzed companies transferred the generated value to their shareholders, which mean that the average TSR was nearly 9 percentage points higher than the average expected rate of return on equity. The standard deviation indicates rather large diversity of analyzed companies in terms of value transfer. The distribution of the results of the analyzed companies is characterized by negative skewness, which means left-side asymmetry. In all years the distribution of CSVspread is leptokurtic.

In the third stage of the study the correlation between the results of value building and value transfer phase was examined. Table 3 presents the outcomes of correlation analysis between variables CSVspread and REP in analyzed years.

Table 3.

Pearson's r coefficient between variables CSVspread and REP for non-financial companies listed on WSE in 2011, 2012 and 2013

Year	2011	2012	2013
Pearson's r coefficient (between variables CSVspread and REP)	0,2978	0,2881	0,4148

All correlation coefficients are statistically significant for $p <, 0500$.
(Source: own elaboration)

Analysis of the data in the table 3 indicates low correlation between variables REP (as a proxy for value building result) and CSVspread (as a proxy for value transfer result) among the analyzed companies in 2011 and 2012 and moderate correlation in 2013. It means that the relationship between the value building and value transfer is weak or moderate in the analyzed stock companies. Furthermore it means that the value building company will not necessarily transfer value to the shareholders, while the value diminishing company can transfer value to the shareholders. In fact, there is such a situation among the analyzed companies in 2013 on average, when the companies do not build value on average (negative REP), while the TSR is on average significantly above the expected rate of return. Observed results can be justified by stating, that many other factors influence the value transfer apart from the effects of value building process. Some of them are the result of a conscious decision of the company itself (e.g. dividends), but many of them are beyond the control of the company (e.g. capital market psychology, etc.).

4. Conclusions

The present paper investigated the capacity of Warsaw Stock Exchange (WSE) non-financial listed companies to create value for their shareholders. The study was based on the three-phase value creation model: the build-sustain-transfer framework. The issue under scrutiny was explored in two stages; first it was investigated if the selected companies build (and sustain) value; second, it was examined whether the respective companies transfer value to their shareholders. The following metrics were used: the relative economic profit (REP) for the first stage of the study, as a measure of the value building process, and the created shareholder value spread (CSVspread) for the second stage of the study, as a measure of value transfer. A new approach was used by including value creation research into the build-sustain-transfer framework. Within the last part of the study the relationship between value building and value transfer was investigated for the non-financial companies listed on WSE.

The results of the study show that the WSE non-financial listed companies, in average, did not build value. This indicates that their returns on equity (ROE ratios) did not cover the cost of capital. Regarding the value transfer, the results indicate that this transfer took place, in average, only during 2013; for the 2011 and 2012 the total shareholder return generated by the respective companies was lower than expected. However, the results indicate a large diversity among the analyzed companies in terms of REP and CSV spread. Thus, in the end, the data indicates low correlation between the value building process and value transfer for 2011 and 2012, and a moderate correlation for 2013.

The limited size of this paper does not allow studying all relevant issues. Directions for further research involve examining the value creation results in companies listed on WSE divided in accordance to business sectors affiliation, incorporating other variables and longer time-series to analysis, as well as an analysis of panel data (cross-sectional and time-series).

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