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INTANGIBLE-DRIVEN VALUE CREATION: SUPPORTING AND OBSTRUCTING FACTORS

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This study investigates the factors that support or obstruct market value creation through intangible capital. We explore the impact of intangibles and exogenous shocks on corporate attractiveness for investors measured by Market Value Added (MVA). Specifically we analyze relationship between intangible-driven outperforming of companies, measured by Economic Value Added (EVA) and a number of intangible drivers on macro, meso and micro level. We suppose that the process of value creation is confined not only by companies' performance. It is established in our study that investment attractiveness is affected by intangibles. Our empirical research is conducted on more than 900 companies from Europe and US during the period of 2005-2009. We found out in this study that a company's experience, size and innovative focus facilitate value creation. An unexpected result was revealed concerning countries' education level, which appears to be an obstructive condition for intangible-driven value creation. Our findings extend the understanding of the phenomenon of intangible capital and enable the improvement of investment decision-making.

JEL Classification: G 30, M21.

Keywords: intangibles, economic value added, market value, empirical study.

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Introduction

The role of intangible capital in a company's value creation is determined by a rich body of empirical research such as that by Roos et al. (2005), Tseng and Goo (2005), Tan et al. (2007), and Tseng (2008). Moreover, the contemporary theory of corporate finance claims that intangibles are one of the most substantial origins of companies' abnormal returns and value growth. In this regard, the following studies are relevant: Lev (2001), Edvinsson and Malone (1997), Zaratiegui (2002) and Stegmann (2007). The notion of Economic Value Added (EVA) as one of most commonly accepted indicators of intangible-driven outperformance was first introduced by Stewart (1999) in his book "*The Quest for Value: A Guide for Senior Managers*". He claims that EVA is, on the one hand, an output on intangibles employment, and on the other hand, provides market value growth.

A further value creation process has been considered in studies by Stern (2001) and Copeland et al. (2000) from two perspectives: the condition of value creation is set as sustained positive Economic Value Added (EVA), at the same time market value added (MVA) is regarded as an indicator of investment attractiveness and an outcome of value creation. A certain amount of studies in the field of empirical corporate finance examines the relationship between EVA and MVA in trying to confirm or refute the theoretical framework of value-based management. The significant link between these phenomena was established in studies by Chen (2010) and Huang and Wang (2008). At the same time, Fernandez (2002), as well as Colak (2010) and Pal and Soriya (2012), introduced contradictory results suggesting that intangibles, and EVA in particular, do not affect the market value of companies.

It appears to be very challenging to obtain empirical evidence that intangible capital effectiveness encourages the investment of potential shareholders in a particular company. A number of unobservable factors influence companies' market prices. This evidence has been established by Lee et al. (2004) and Hee-Jae and Pucik (2005). Nevertheless, we need to consider this against the hypothetical background of investors in companies being adequately informed about corporate performance, and thus possibly making correct decisions.

We presume in our research that the cohesion between EVA and MVA is much more complicated than has been introduced in the theoretical model. A number of factors in line with EVA influence enterprise value. In our study we would like to draw, estimate and interpret an empirical model of EVA and MVA linking emphasizing factors, which may support or obstruct value creation.

This study connects factors of value creation, which are related to a particular company on a micro-level, and those associated with the set of enterprises in a particular country (macro-level) or location (meso-level). On a micro-level we consider corporate experience, amount of human capital and knowledge creation as enhancers of investment attractiveness and, in this regard, value creation. Knowledge economy and a development of the financial market are examined in cohesion with value creation of a particular company. Meso-level intangible factors are introduced by the set of conditions provided in large and capital cities. The crisis of 2008-2009 is analysed as an exogenous shock that may be pivotal for potential shareholders when deciding to invest into a company.

The paper is organized as follows: the next section gives a brief overview of the literature, focusing mainly on empirical analyses of intangible's contribution to company value. In Section 3, we introduce the research design and put forward the hypotheses. Section 4 describes the data and research methodology. The results are presented in Section 5. The last section concludes the paper by briefly summarizing the main findings obtained and also providing a discussion of the results.

Literature Review

The research question of our study arises in the field of contemporary empirical finance where value creation has appeared as a hot topic during the last two decades. Scholars seek factors of value (value drivers) both from theoretical and empirical perspectives that contribute to the decision-making process. In searching for key value drivers, recent studies in empirical corporate finance have been leaning towards the resource-based view. According to Barney (1991), the company should strategically employ resources, which are not available to a large number of competitors, leading to potential future benefits which cannot be taken by others and which are not imitable or substitutable using other resources. The knowledge-based theory (Grant, 1996) and a series of empirical studies such as those by Chen (2010) and Huang and Wang (2008) provide the evidence that intangibles are the most appropriable strategic resources. The specific nature of intangible resources allows for the creation of a sustainable competitive advantage but, on the other hand, complicates their practical employment as well as their theoretical investigation.

A comprehensive understanding of intangible capital's appropriability (i.e., the ability to create future economic benefits) is provided by empirical studies based on econometric analysis. If we consider an intangible's appropriability for potential investors, it would be specified through market capitalization or its derivatives, and would be determined as a dependent variable in the

regression model. The most commonly applied indicators are Market Value (MV), Market Value Added (MVA), the ratio of Market Value and Book Value (MV/BV) as well as Tobin's Q. These indicators are introduced in papers by Tseng and Goo (2005), Pulic (2000), Shiu (2006), Liang et al. (2011). As we would like to consider only those parts of the enterprise value that are associated with intangible capital, we need to eliminate the impact of tangible capital. The MVA tool is one of the most frequently applied for this purpose. It is estimated by reducing the market enterprise value (EV) by the book value of capital (BV):

$$\text{MVA} = \text{EV} - \text{BV} \quad (1)$$

Stern and Steward (1999), who first introduced the indicator of MVA, state that the spread between a company's market and book value can be explained by the future sustainable outperformance. According to these author's approach, the current MVA of the company is associated with the future abnormal profit (Economic Value Added - EVA[©]), which is basically provided by intangibles employed by a company.

EVA[©] is widely recognized as a good proxy for the possession of unique resources which allows for abnormal returns (Stewart, 1999; Bontis, 2001; Stern, 2001). Several researchers of stakeholders' theory agree that economic profit reflects the efficiency of intangible capital employment (Meek and Sidney, 1998; Donaldson and Preston, 1995). This concept implies that the company succeeds when returns on invested capital exceed the industry average level. In a situation where many of the technologies and financial resources are generally available for all companies around the world, they should look for another source of growth, i.e., this is the only way to become more competitive in the market. That source of growth could be provided by intangible capital employment and its effective management. This reasoning underlies the assumption that a positive economic profit reveals an intangible-driven outperformance (Zaratiegue, 2002; Stegmann, 2007). Although the EVA[©] model has several shortcomings (Lehn and Makhija, 1997; Bontis, 2001), it is widespread and can be used to provide estimates from the data introduced in companies' financial statements. For the purposes of our empirical study, we estimate EVA by using all the information available in the companies' financial reports. According to the original methodology, a number of adjustments should be made to calculate the EVA for a company. Most of these adjustments reflect the shifting from accounting to a financial view on the company's performance. The major change is related to the idea of including opportunity costs when estimating the company's performance. Opportunity costs are those associated with the normal profit that might be gained by a common representative firm on the market. In this sense, additional profit is provided by a company's competitive advantages and

mostly by its intangibles. This framework is commonly accepted by scholars in corporate finance as well as followers of resource-based theory (Barney, 1991; Bontis, 2001, Stewart, 1999).

Meanwhile, according to Stewart (1999) and Stern (2001), information reflected in a company's financial statement should still be adjusted to calculate both the operating profit and capital invested. The adjustments are basically related to three indicators that are included in EVA estimation: net operation profit after taxes (NOPAT), invested capital (IC) and capital charge (see formula 2).

$$EVA_t = IC_{t-1} * (ROIC_t - WACC_t) \quad (2)$$

where:

- $IC_{t-1} = D_t + E_t$: book value of equity and debts;
- $ROIC_t = NOPAT_t / IC_{t-1}$: return on invested capital;
- $NOPAT_t = EBIT_t(1 - T)$: net operation profit after taxes;
- $WACC_t = D_t / (D_t + E_t) * kd(1 - T) + E_t / (D_t + E_t) * ke$: weighted average cost of capital;
- D_t : book value of debt;
- E_t : book value of equity;
- $kd = krf + \text{default spread of the company} + \text{default spread of the country}$: cost of debt;
- $ke = krf + \beta * (km - krf)$: cost of equity;
- krf : risk free rate – return on the treasury bonds of the US government;
- β : bottom-up build beta (adjusted by Hamada's equation);
- km : historical return on the market portfolio (market index);
- T : effective tax rate.

In our study, we were not able to precisely adjust all the EVA components due to the lack of information available in the sources on our database. Nonetheless, we made major adjustments: NOPAT was taken from the estimation suggested by Bureau Van Dijk (Amadeus and Ruslana) and Bloomberg; invested capital was adjusted on the amount of cash introduced in companies' balance sheets; we used the weighted average cost of capital to estimate capital charge; the information for cost of equity and debts was taken from the US financial market. We used analytical information available at <http://pages.stern.nyu.edu/~adamodar/>:

- risk free rate 30-year Treasury bonds of US government;
- long-term market premium as risk premium for equity;
- betas of companies estimated according to Hamada – framework;
- default spread from local government bond as premium for country sovereign risk (the country risk premium is based on the volatility of the market in question relative to the US market);

- default spread for a particular company according to S&P ranking (according to interest coverage rate);
- financial leverage estimated on the base of book value of assets.

The main research question addressed by empirical studies is: “Does intangible capital have a positive influence on a company’s market value?” Most research has empirically proved a positive relationship between intangible capital input and a company’s outcome.

We have summarized the relevant studies (Table 1) and have found that only a few studies take into account specific features of the company, such as age, size and financial behaviour (Firer, 2003; Pal and Soriya, 2012), or external factors, such as industry and economic factors (Tseng and Goo, 2005; Pal and Soriya, 2012). Despite the fact that some studies are devoted to the issues studied here, many of them present an empirical analysis of a particular industry, a particular country (Chen et al., 2005) or a particular company size (Cohen and Kaimeakis, 2007). The spatial dimension in such intangible capital studies is completely ignored, in particular, the issue of a firm’s location, which influences its ability to effectively employ intangible capital. The spatial proximity of clients, suppliers, universities and other potential partners provides knowledge externalities and enhances the possibility of cooperation (Fujita & Thisse, 2002; Hafner, 2013).

In analysing the theoretical and empirical background of intangible-driven value creation, we seek to fill the gap in the investigation of the multi-factor nature of this process; this, therefore, became the starting point of our study.

Table 1 Previous studies on intangible capital transformation into company's market value

Authors	Sample	Results
Pulic, 2000	27 companies listed on the London Stock Exchange during 1992-1999	A strong positive correlation between VAIC as a proxy indicator of intellectual capital and MVA is revealed.
Firer, 2003	75 companies from South Africa 2001	No relation between intellectual capital and company performance is discovered. In some industries, structural capital is statistically significant. Among the control variables, only industry impact is statistically significant. Firm size and financial leverage is statistically insignificant
Chen <i>et al.</i> , 2005	All the firms listed on the Taiwan Stock Exchange during 1992-2002	A firm's intangibles have a positive impact on market value.
Tseng & Goo, 2005	289 listed Taiwanese manufacturers that ranked among the 500 largest in terms of sales revenues in Taiwan	Human and structural capital indirectly and positively influences corporate value. The effect of intellectual capital on enhancing corporate value in high-tech companies is greater than in Non-high-tech companies. Industry is statistically significant.
Hagg & Scheutz, 2006	12 real estate firms listed on the Swedish stock market	The use of property brands can make the market value high among both real estate and high-tech-firms, and the replacement cost low among high-tech and professional firms. Industry is statistically significant.
Volkov & Garanina, 2007	43 Russian companies 2001-2005	The market value of Russian companies depends on the value of both tangible and intangible assets.
Huan and Wang, 2008	37 listed companies from Taiwan belonging to different industries during 2001-2003	The explanatory power of a company valuation model increases when proxies for intangible capital are included. Company's age has positive impact.
Yang & Chen, 2010	62 publicly listed IC design firms in Taiwan in 2009	The empirical results revealed that 30 out of 62 firms are efficient along the MVA or CIV performance dimension. About 25% of the IC design firms still have room for improvement in relation to their management of intellectual capital.
Pal & Soriya, 2012	105 pharmaceutical and 102 textile companies during 2001-2010	A positive relation between intellectual capital and ROA, as well as between intellectual capital and ROE, is revealed in the pharmaceutical industry. Intellectual capital's impact on MV/BV is statistically insignificant. Among control variables industry and company's size are statistically significant. Financial leverage doesn't influence on relationship between intellectual capital and company's performance.

Research Design and Hypotheses

As has been stated, the purpose of this research is to support the theory based relationship between intangible-driven outperformance and a company's value created for investors, as well as to identify the additional factors that drive or hinder investors' expectations.

The framework of our analysis is as follows:

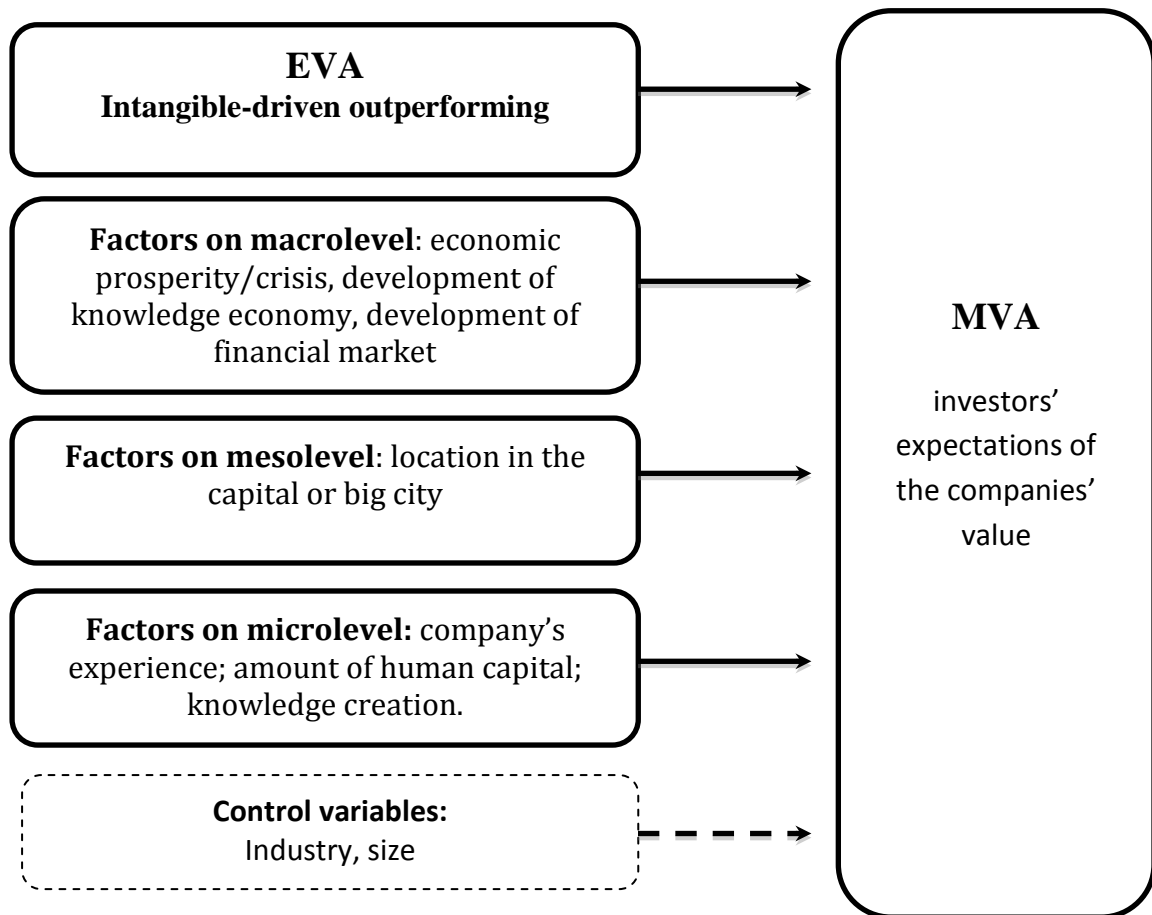


Figure 1 Research framework.

According to our framework, and taking into account the previous studies, we put forward a range of hypotheses.

Firstly, we pay attention to the factors on a macro-level. Our data covers the period of the global financial and economic crisis 2008-2009, as well as the period of economic prosperity 2005-2007. During the crisis, we obviously encounter the problems of companies' falling performances and stagnating financial markets. We need to analyse these phenomena so as to correctly draw our conclusions. This leads us to the following hypotheses:

H1_a: Economic prosperity is an enhancer of intangibles-driven value creation.

H1_b: Economic recession is an obstructive factor of intangibles-driven value creation.

On a macro-level, belonging to a particular country determines the availability of intangible recourses for each company. The most pivotal difference between the countries

investigated is the level of development of the knowledge economy. This criterion is determined in our research by the Knowledge Assessment Methodology developed by the World Bank (World Bank, 2009). The Knowledge Index (KI) allows the ranking of countries according to the following pillars:

- An efficient innovation system among firms represents how the economy produces and implements innovations and research for local needs and how it creates new technologies.
- An educated and skilled population represents how the economy is able to create, share and use knowledge.
- Information and communication technology represents the effective creation, dissemination and processing of information.

We use these ranks as proxy indicators of country-specific features that support or obstruct intangibles-driven value creation. As stated in the literature review, most studies on intangible capital transformation are based on a particular country, only a few studies investigate cross-country samples using the country belonging as a control variable. In our paper we attempt to explore the significance of intangible availability at a macro-level through the position of the country according to the KI; a novel attempt in the field of intangible capital. The hypothesis is as follows:

H1_c: Innovation infrastructure, level of education and level of IT development in a particular country are positively associated with a company's value creation driven by intangible capital.

In analysing the sources of market value creation, we need to consider the level of development of the financial market in a particular country. This level is determined through the size and efficiency of the financial market. The number of investment alternatives, speed of availability and the quality of information, as well as the cost of financial intermediation, influence investor decision making. The restriction of data availability led us to differentiate between US and European financial markets, except for a financial market development in a particular country in Europe. We put forward the hypothesis:

H1_d: The level of development of the financial market has a positive impact on intangibles driven value creation.

Considering the external opportunities to acquire intangibles from the external environment, we take also into account the meso-level. As stated by Hafner (2013), spatial proximity of universities, clients, suppliers and other partners enhances the potential value

of the company. We assume that intangible availability at a meso-level could be measured by the company's location in the capital or in a city with a population greater than one million. Therefore, the second hypothesis is formulated as follows:

H2: A location in the capital or in a city with a population greater than one million has a positive effect on the intangibles-driven value creation.

Individual company features have been investigated by many authors; nevertheless, the contradictory results arising from these studies give a reason for further precise exploration of these features. Furthermore, we investigate internal factors in a cross-country and cross-industry sample. The last group of hypotheses is as follows:

H3_a: The amount of human capital is positively associated with intangible-driven value creation.

H3_b: The experience of the company has a positive effect on investor expectations on value creation.

H3_c: The creation of new knowledge through research and development has a positive impact on intangible-driven market value added.

We suppose that the sectors which appear in our sample differ according to a number of criteria, such as concentration, value chain type, financial architecture and the dynamic of knowledge obsolescence. Consequently, we consider the belonging to an industry as an important factor for intangible-driven value creation. The size of the company measured by book value of debt and fixed assets is controlled in our study as well.

These hypotheses are tested through econometric analysis. Our core econometric specification is as follows:

$$MVA_{it} = \alpha + \beta \cdot EVA_{it} + (\mathbf{Y}_1, \mathbf{Y}_2, \dots, \mathbf{Y}_n) \cdot \text{MaF} + (\mathbf{\delta}_1, \mathbf{\delta}_2, \dots, \mathbf{\delta}_m) \cdot \text{MeF} + (\mathbf{\zeta}_1, \mathbf{\zeta}_2, \dots, \mathbf{\zeta}_l) \cdot \text{MiF} + (\eta_1, \eta_2, \dots, \eta_k) \cdot \text{CV} + \varepsilon_{it}$$

where:

MVA – Market Value Added;

EVA – Economic Value Added;

MaF is a vector of macro-level factors (economic prosperity/crisis, development of knowledge economy, development of financial market);

MeF is a vector of meso-level factors (location in the capital or big city);

MaF is a vector of micro-level factors (company's experience; amount of human capital; knowledge creation);

CV is a vector of control variables (industry, size);

ε is a vector of errors;

t is a time period (from panel data);

$\beta, \gamma, \delta, \zeta, \eta$ are regression coefficients.

Data and Methodology

We investigate companies from Europe (Great Britain, Germany, Finland, Spain and Portugal) and North America (the USA and Canada). The countries were selected from different quartiles in KEI-based ranking (World Bank, 2009).

The datasets in this study were derived from a combination of several detailed longitudinal databases: Bureau Van Dijk (Amadeus and Ruslana) and Bloomberg. The database collected for the purpose of this study consists of financial and economic indicators underlying intellectual capital's evaluation, for example, strategic performance indicators such as EVA[©] as a proxy of intangible capital's annual return and MVA as an indicator that reflects company investor expectations. As we would like to emphasize the transformation drivers of intangible capital, the database includes a number of indicators related to these factors.

It should be noted that most of the required data is specific and rarely observed. Thus, the dataset for this research includes figures from annual statistical and financial reports, but it also contains the different qualitative characteristics of the companies and industries analysed. We have collected data from around 900 companies. The final sample is an unbalanced panel for the period 2005-2009. The companies presented in the sample are large and publically listed. Table 2 presents the list of indicators, the information sources for these indicators and also their use in previous studies.

Table 2 Indicators, information sources of independent variables, use in the previous studies.

Independent Variables	Indicator	Information Source and Estimation Algorithm	Previous studies
Intangibles driven outperforming	Economic Value Added	Authors' Estimation	Huang and Wang, 2008; Riahi-Belkaoui, 2003; Tseng, 2008
Factors:			
<i>on macro level:</i>			
Economic crisis	Year 2008-2009		
Economic prosperity	Year 2007		
Knowledge Economy	Pillars of Knowledge Index	Information source – World Bank Web-site [http://data.worldbank.org/data-catalog/KEI].	Shakina & Barajas (2012)
Financial Market	USA Market	Belonging to the USA. Company's Annual Report, sections "Common information."	Riahi-Belkaoui, 2003
<i>on meso level</i>			
Availability of intangibles on meso level	Localization in the Capital	Belonging to the capital city of the analysed country. Company's Annual Report, sections "Common information."	-
	Localization in the Megalopolis	Belonging to the city with more than 1 million inhabitants. Company's Annual Report, sections "Common information."	-
<i>on micro level</i>			
Experience	Company Age	Foundation year. Company's Annual Report, section "Common information."	Huang and Wang, 2008 Huang & Wu (2010)
Amount of human capital	Number of Employees	Company's Annual Report, section "Common information."	Firer, 2003; Huang & Liu, 2005
Knowledge creation	R&D Investments	Company's Annual Report, section "Financial data."	Poletti Lau (2003) Huang & Liu (2005)
Control variables:			
Industry	Belonging to Industry	Company's Annual Report, sections "Common information."	Firer, 2003; Liang et al., 2011; Shakina & Barajas, 2012
Size	Book Value of Fixed Assets	Company's Annual Report, section "Financial data."	Liang et al., 2011; Pal & Soriya, 2012 Firer, 2003;
	Book Value of Long-term Debts	Company's Annual Report, section "Financial data."	

Table 3 helps us to characterize the type of company and the time period that we analysed for our research. It presents several descriptive objectives of the sample, where the mean and the standard deviation of the variables are detailed:

Table 3 Descriptive statistics

Variable	Number of Observation	Mean	Std. Dev.	Min	Max
Company's Age	4495	45.69	38.67	0	184
Book Value of Fixed Assets (mln. dollars)	4309	984.86	3273.61	0	54431.4
Book Value of Long-Term Debts (mln. dollars)	3698	2245.60	24959.82	0	677976
Number of Employees	4527	4752.98	4170.49	501	20900
EVA (mln. dollars)	3604	-309.19	3969.36	-108276.4	3268.44
MVA (mln. dollars)	4019	1796.76	23732.06	-43293.08	1458439

We seek to analyse industry and country differences, supposing that these factors play a critical role in the intangible capital transformation process. As such, we have selected the following industries: financial services (14%), the wholesale and retail trades (23%), machinery and equipment manufacturers (38%), chemicals (8%), transport (4%), communications (9%), and oil (4%).

ANOVA helps us to draw the preliminary conclusion if our proposition concerning significant industry differences is correct. We have obtained the following results concerning EVA[©]-criterion heterogeneous (P-value=0.000, Bartlett's test for equal variances p-value = 0.000) and MVA-criterion heterogeneous (P-value=0.0024, Bartlett's test for equal variances p-value=0.000). Mathematically speaking, as the P-value is less than 5%, we cannot reject the null hypothesis that there are industry differences in the sample of companies that we have analysed. In other words, industry-specific features significantly affect the transformation of intangible-driven outperformance into company market value. There is at least one significant difference between the groups' mean and variance.

The structural analysis of the sample according to countries represented showed that America covers 69% of the whole sample and Europe 31%. Among the European countries we have the UK (15%), Germany (5%), Spain and Portugal (5%), Finland (5%) and Netherlands (1%). The results of the ANOVA test support the hypothesis of country difference. Despite the fact that the countries are homogeneous against the mean value of

EVA[©] (p-value=0.6180), they are heterogeneous against the standard deviation of EVA[©] (Bartlett's test p-value = 0.000), as well as the mean value and variance of MVA (p-value=0.000).

However, evidence captured by ANOVA is not enough to argue that industry and country are considerable factors in intangible-driven value creation process. We have provided multifactor regression analysis in the next section to obtain more precise estimations of determinant significance.

Results

The hypotheses about supporting and obstructing factors of intangible-driven value creation were examined using correlation analysis. We revealed that there is no close linear relationship between the explanatory variables. This means that we will not face the multicollinearity problem. Meanwhile, we observed a correlation between some independent and dependent variables according to the econometric specification of this research.

In the next step, we tested a regression model with the OLS method using STATA/SE 10.0 software for MacOS. Finally, we developed the independent pooled regression model in accordance with the concept of transformation of intangibles into a company's value. Applying that approach, we have the opportunity to interpret the significance and the sign of the coefficients obtained in the equation. Table 4 shows the results of the regression coefficients for the explanatory variable MVA, using EVA[©] as a key market value determinant, and several variables that estimate a company's experience, amount of human capital, innovative features in addition to conditions in which a particular company operates: location, industry and a number of institutional factors.

Table 4 demonstrates that we have developed a statistically significant model (p-value (F-statistic) =0,000). The R2 equals 15% for the robust estimations. These numbers indicate that the regression is able to explain on average about 15% of the variance in the dependent variable. Thus, our study found a robust relationship between intangible-driven outperformance and MVA, as well as the number of significant external and internal factors that influence this transformation.

Table 4 Independent pooled regression. Dependent variable: Market Value Added

Independent Variables	Indicator	Coef.	Robust std.err
Intangibles driven outperforming	Economic Value Added	.591***	.177
Factors:			
<i>on macrolevel:</i>			
Economic crisis	Year 2008	-1533.659***	321.117
	Year 2009	-677.552**	295.941
Economic prosperity	Year 2007	-21.677	317.819
Development of Knowledge	Educated and skilled population	-321.366*	195.477
	Innovation system	-1007.960	1157.290
Economy (Knowledge Index)	Information and communication technology	122.150	190.829
Development of Financial Market	USA Market	815.051***	280.982
<i>on meso level:</i>			
Availability of intangibles on mesolevel	Localization in the Capital	107.074	278.278
	Localization in the Megalopolis	340.466	253.582
<i>on microlevel:</i>			
Experience	Company Age	3.3862*	2.106
Amount of human capital	Number of Employees	.042**	.0168
Knowledge creation	R&D Investments	5.315***	1.089
Control variables:			
Industry	Chemistry	-1004.171**	495.171
	Communication	-1140.059***	383.663
	Transport	-1872.474***	215.777
	Manufacturing	-890.553	707.908
	Oil	1023.643	951.671
	Commerce	-1339.951***	314.704
Size	Book Value of Fixed Assets	.502***	0.0810
	Book Value of Long-term Debts	.080***	0.027
Intercept		12158.500	10620.80
Number of Observations		3147	
R-squared		0.15	
F (14,958)		22.38***	

Significance: “***” - p-value < 0.01; “**” p-value < 0.05; “*” – p-value < 0.10

In the frame of our analysis we find a number of statistically significant factors of value creation in line with EVA. As we cannot be sure that all the estimations obtained in our research are unbiased because endogeneity might exist in the introduced model, we interpret only those coefficients that reflect exogenous factors (transformation drivers). We suppose that there are some significant but unobservable individual characteristics of

companies introduced in our analysis, for example, the quality of corporate management, which is why we have not placed much emphasis on the value of the coefficient before EVA[®]. We only conclude that this factor appears to be positively significant for an exploration of the company's market value and has an impact on investor expectations. This fact has been confirmed in several empirical studies, including those by Huang and Wang (2008). Meanwhile, the relatively low explanatory power of the estimated model leads us to conclude that EVA[®] is only one of the important factors that are reflected in the market capitalization of firms.

The first group of the hypotheses concerning the influencing factors on a macro-level was partly confirmed. Economic crisis, as expected, has a negative impact on market value added. However, contrary to our expectations, economic prosperity is not significant for value creation, nor is the country's innovation system or the level of information and communication technology. The negative sign before the indicator of the country's educational level and the significance of this result at 10% is also in contradiction to our suppositions. These findings lead to the discussion about the maturity of a skilled labour market and its influence on the availability of unique human intangibles for each particular company.

The second group of the hypotheses about the importance of special proximity of different partners was not confirmed.

The last group of the hypotheses was fully justified by regression analysis. A company's experience, amount of human capital and innovation activities are significant with positive sign.

As expected industry type and the size of the company matter for investor's expectations of the company's future ability to create value.

Conclusion and Discussion

In answering the question addressed in our study and in testing the hypotheses put forward, we would like to emphasize some of the most relevant results, which we also expect to encourage future discussions.

In analysing the macro-, meso- and micro-level factors that influence the investor expectations in addition to the key signal of outperforming measured by EVA[®], this study attempts to provide a holistic view of the decision making process.

We would like to highlight the importance of the influence of the economic crisis. The unforeseen impact of exogenous shocks on the effectiveness of companies' intangible recourses was revealed. Despite the negative impact of the economic recession, the

opposite causal relationship was not observed. Our investigation established that the economic recession appears to be an obstacle in the effective employment of intangibles. This finding corresponds with the idea that company intangibles are of particular importance during market instability. Taking into consideration that intangible resources provide most of a company's competitive advantages in the knowledge economy, the established result has an obvious interpretation.

We found several additional factors of intangible-driven value creation. Contrary to our expectations, the level of education in a country has a negative link to company market value added. We suppose that the developed education system, as well as the gross tertiary education enrolment rate, means that this factor no longer creates a competitive advantage for a particular company. It is also important to note that an efficient financial market allows investors to make proper decisions and to be better at recognizing the ability of intangible capital to create future value. To confirm this, we included the US market determinant as an aggregated factor of a relatively more developed financial market. This driver appears to be robustly positively significant in our research. That means that our previous supposition is supported and the interpretive perspective places the focus on the great influence of the financial system on the economy in developed markets.

Meanwhile, innovation infrastructures and IT development do not affect intangible's transformation into market value added according to the analysis carried out in our study. To avoid disseminating this result on any economy, we would like to explain this phenomenon as a result of the analysis of a relatively homogeneous sample according to the mentioned criteria. We could not find a significant gap between IT and the innovation system in developed European countries and North America.

Locations within a capital or a big city were expected to be irrelevant to the intangible capital transformation process. This result appears to be very significant. As we initially assumed that location analysis could lead to an endogenous problem (companies do not randomly choose their location), we can confirm that this factor does not have an impact on intangible capital's long-term return.

Our results confirmed that the individuality of a company plays a considerable role in the effective employment of intangible capital and contributes to the decision to invest in the company. The company is better at value creation if it is more experienced and it has more employees. The intensive development strategy, when a company prefers to conduct its own research and development projects rather than buying technologies, is positively correlated with market value creation.

We revealed the significance of belonging to a particular industry; nevertheless, this fact remains a question that needs further investigation. It seems relevant to specify the peculiarities of each industry, for example, through concentration levels, royalty payments, product life cycles and the dynamic of knowledge obsolescence, etc.

The new insights into intangible recourse's transformation into MVA developed in this study extend the understanding of the complexity of this phenomenon and allow for the improvement of practical investment decisions.

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