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CORPORATE NEGATIVE EQUITY: THE EVIDENCE FROM THE EUROPEAN UNION

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Abstract

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After the Global Financial Crisis the frequency of reported losses of companies has increased significantly in countries of the European Union. Moreover, the financial leverage of companies have increased and even exceeded 100% in several countries. The reason of this development is negative equity that companies find themselves to report. At first sight negative equities are caused by accumulated losses from prior periods. However, there are some other reasons that can result in increasing negative equities in companies. They remain adequate as long as a company is able to pay its bills. Nevertheless, a company with negative equity is exposed to risks. This paper investigates whether the corporate negative equity is a sign of the future failure of a company. We examine non-financial manufactured companies from selected countries of the European Union within the period 2005–2012 from database Amadeus (Czech Republic, Slovakia, Hungary, Poland and Germany). By the means of comparison between negative and positive equities we applied descriptive statistics and Pearson correlation analysis. We find that in all surveyed countries the size positively influences the equity of companies. Other factors as profitability and growth opportunities do not influence the corporate equity. In addition the binary logistic regression analysis has been conducted based on the evidence from Czech companies. Our results indicate that negative equities are not a sign of bankruptcy or insolvency of a company. But the low profitability or low business activities (that are predictors of bankruptcy) might lead to negative equities in the balance sheet.

Keywords: business cycle, financial crisis, corporate economics, European Union

INTRODUCTION

After the Global Financial Crisis the frequency of reported losses in companies has increased significantly among countries of the European Union. Moreover, the companies have started to report negative equities on a more frequent basis (Brown *et al.*, 2008). The increasing tendency of balance sheets with negative equities implies different causes. Increasing negative equities in companies can stem from big losses that are not covered by retained earnings over the long-period of time; however, might be caused by leveraged buyouts, severe depreciation in currency positions or substantial adjustments to intangible property.

The negative equities might be considered as outliers of the sample and be eliminated from the research sample. If the percentage of such equities is very low or there is the influential, then in this case the trimming will be reasonably necessary. However under current conditions the existence of negative equities can represent rather a new tendency than outliers.

On the one hand negative equity may signal insolvency of a company and large losses. On the other hand if company's cash flow meets current bills, a company can continue to operate regardless its level of equity. The existence of negative equities in practice can lead to development of new evaluation models, decision making mechanisms and even new unconventional accounting standards.

The practitioners wonder if negative equities present a sign of insolvency of a company. In this paper we try to compare corporate performance represented development and stability of companies with positive and negative equities. There is a few studies that deal with this problem (Brown *et al.*, 2008; Jan and Ou, 2012; Ang, 2010).

The paper is organized as follows. At the beginning of the paper, the theoretical background deals with negative equity in the nutshell. The third part describes the research design as methodology and sample selection. The fourth part represents the empirical results. Finally, there are discussion and conclusion parts that summarize and provide concluding remarks.

THEORETICAL BACKGROUND

Outliers as a Statistical Category

The issue of outliers is a subject of investigations in different types of scientific studies in economics to medicine. From the statistical perspective Johnson (1992) determines outlier as "an observation in a data set which appears to be inconsistent with the remainder of that set of data". As a rule outliers "show abnormal behavior with respect to their context or that have unexpected values in some of their parameters" (Maciá-Pérez, 2015). In other words data with outliers significantly vary from the typical behavior that a researcher expects to observe. The outliers are discovered for two main reasons:

1) Removing outliers before executing a clustering task or conducting an analysis, in order to make the data set more smooth and get effective results.
2) Further investigation of outliers if they are not noise, but interesting elements (Kontaki, 2015).

The negative equities can be interpreted as outliers because their value differs from the theoretical expectation that equity should be positive. However, such outliers might represent interesting unusual category of companies or even a new tendency.

Corporate Equity

In general terms, corporate equity represents the amount of funds contributed by investors and retained earnings. Corporate book equity (BE) is widely used to determine different performance and its effectiveness. In a general sense it represents a difference between assets and liabilities of a company. It can be applied as a determinant of corporate capital structure, financial performance and level of indebtedness and insolvency, value or even in asset pricing (Sedláček, 2009).

Alternatively there is a market value of equity, which represents the expectation of investors, how the market evaluates a company performance and future growth. According to International Valuation Standards (IVS, 2015) market value is defined as "the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion." The book value can be higher or lower than the market value; furthermore the market-to-book value of equity is a significant explanatory element in the stock returns analysis (Bulkley *et al*., 2004).

The book value is value based on a company's balance sheet. There are difference factors that influence the estimated value as depreciation, amortization and impairment costs. As a rule the book value can be used in liquidation process, as collateral and for accounting purpose. Despite several disadvantages compared with market value the economists use book value in research by reason of data availability and risk of overvaluation or undervaluation of market value.

Negative Equities in Research

Considered as outliers negative equities (NE) might be excluded from the analysis. There are different reasons to do it. Firstly, companies with negative equities have high default risk. However, according to Brown *et al*. (2008) if high default risk companies (stocks) are not taken into consideration thus high-growth companies (stocks) should be also excluded from the analyzed sample as both of these categories are small. The second argument is an insignificant effect in analysis of small negative equities sample in a dataset. The number of companies that report negative equities has increased during last decades and reached 5% of all listed stocks (Brown *et al*., 2008). Thus the presence of negative equities may represent a tendency and should not be considered as outliers in an analysis.

One of the challenges regarding negative equities in asset pricing is companies' classification in terms of value that is based on the book equity to market equity ratio. At first sight companies with NE are financially distressed, and in most cases it is true. However, the reasons to have book equity below zero vary.

The equity consists of the capital received from shareholders and retained earnings. Thus the most common reason of negative equities appeared in a balance sheet is losses, i.e. negative retained earnings that exceed the current equity value. Secondly NE can be caused by accounting treatment of goodwill in the case, when high growth potential companies are merged by larger players on the market. Also the start-ups can face such a problem, when there are only patents instead of actual products. Fourthly preferred stocks redemption can influence book value and create negative value.

Brown *et al*. (2008) propose approach to classify negative book equities stocks across growth-value spectrum. And they find that negative BE stocks significantly influence the magnitude of the value premium. Also they argue that "negative BE stocks with the highest probability of default have higher average returns than all positive BE stocks". The analysis shows that on NASDAQ there is 77% trade of negative book equity stocks, 11% trade on the NYSE and 12% trade on the AMEX. Across industries the analysis shows that computer programming companies have 10% of negative

equities stocks, pharmaceuticals – 5% and oil and gas extraction (5%).

Jan and Ou (2012) find R & D expenditures to be important factor in increasing trend of negative-book-values. They analyze 30-year period and confirm the growth of negative book equity reported in the balance sheets over period 1976 to 2005. The average percentage of companies with negative book value increased from 5% in the period between 1976 and 1985 to ca. 15% during 1996 to 2005. Moreover, they find that the majority of companies with negative book value were not in financial distress. The study supports that increasing investment in R & D over the years leads to increasing frequency of negative book value.

It is an interesting point that companies with negative earnings and consequently negative book equity have positive market value. Based on the accounting theory negative equity occurs when total liabilities exceed total assets and a company is considered financially distressed. However, on practice such companies continue to operate for a long time remaining negative book equities. Regarding such phenomenon Ang (2010) investigates the operating performance and financial characteristics of companies with negative book equity. According to research companies with small negative book equity have continuous losses, poor interest coverage, negative retained earnings, assets and book equity reduction and consequently they face financial distress. On the other hand companies with large BE suffer from one-off negative shock to operating performance during the first negative equity announcement. But afterwards profits, retained earnings and interest coverage are recovered. Moreover, companies with large magnitude of negative equity have lower distress risk and lower probability of default by the side of companies with small negative equity.

In another words, one of the main reasons of negative equity appeared in balance sheet is the situation, when assets value becomes less compared to liabilities that stay at the same level or decrease at slower degree. However, the causes that lead to such position may vary. Firstly, the carry-forward losses, which appear at the moment but will be covered with retained earnings from the future period. Secondly, assets might become less in value compare to liabilities that stay at the same level or decrease slower. That can happen due to intangible assets. Also the dividends payout can lead to negative equity, when the amount of dividends is not covered by the retained earrings and exceed the equity. Thus the negative equity might indicate not only corporate losses, but also the decisions made in the management process.

MATERIALS AND METHODS

The paper is based on the evidence from 5 countries: the Czech Republic, Slovakia, Hungary, Poland and Germany. Four countries represent emerging markets and Germany represents well developed economy. We have constructed the sample containing manufacturing companies for the period 2006 to 2011 from the international database Amadeus. The main selection criteria were a region (if it is incorporated in the investigated country), industrial sector (if manufacture is the main specialization) and availability of appropriate information (if a company has all required data for the period 2006 to 2011). In the analysis the sample consists of 1784 Czech firm-year observations (388 cases are negative equities); 1339 Slovak firm-year observations (106 cases are negative equities); 1209 Polish firm-year observations (33 cases are negative equities); Hungarian 1476 firm-year observations (41 cases are negative equities); German 1536 firm-year observations (37 cases are negative equities).

Based on the previous studies in terms of corporate financial performance we have selected several internal corporate characteristics that have significant influence on evaluation of a company, its future growth and development. The investigated determinants are profitability (Profit), size, growth opportunities (GO) and total leverage (TL). The proxies for determinants were defined based on the previous research. The ratio EBIT to total assets is a proxy for corporate profitability (Ozkan, 2001; Kouki and Said, 2012; Lim, 2012); the natural logarithm of total assets is a proxy for size of a company (Frank and Goyal, 2009; Lim, 2012); the ratio intangible assets to total assets is a proxy for growth opportunities (Michaelas *et al*., 1999). In order to determine the influence of negative equities on corporate performance we have conducted the comparison analysis based on descriptive statistics, correlation and regression analysis within selected countries: the Czech Republic, Slovakia, Hungary, Poland and Germany.

We have applied descriptive statistics (mean comparison and frequencies of investigated variables). Also the correlation analysis and Ordinary Least Squares (OLS) regression analysis were conducted, in order to explore the relation between variables in terms of negative or positive equities. The OLS is represented the linear regression, which was chosen for simplicity and popularity in application.

Furthermore, we have investigated whether negative equities are associated with probability of bankruptcy, in other words whether the occurrence of negative equities is influenced by bankruptcy predictors. For this purpose we have chosen three bankruptcy predictors based on the analysis of the previous literature regarding bankruptcy prediction and default characteristics (Mokhova and Zinecker, 2013):

- Profitability of a company (EBIT to Total assets as a proxy).
- Soundness of a company or interest coverage (EBIT to Interest paid as a proxy).

- Liquidity of a company (Working capital to Total Assets as a proxy).

We have conduct a logistic regression with binary variable represented the occurrence of negative equity as dependent variable and selected indicators of corporate insolvency as independent variables. The sample for this type of analysis consists of 17281 firm-year observation for the period 2005–2012 based on the Czech non-financial manufactured companies.

RESEARCH RESULTS

The Figs. 1–5 present frequency histograms of selected corporate performance for observations with negative and positive equities. The Y-axis shows the numbers of observations in the sample that refer to x value of the investigated variable. The X-axis represent the value of such variables:

Fig. 1 – values of equity;
Fig. 2 – the value of growth opportunities proxy, i.e. ratio Intangible assets to Total assets;
Fig. 3 – the size, i.e. the natural logarithm of Total assets;
Fig. 4 – the value of profitability measure, i.e. the ratio EBIT to Total assets;
Fig. 5 – the value of total leverage measure, i.e. the ratio of Total debt to Total assets.

The histograms of negative and positive equities among investigated countries (Fig. 1) show the distribution of equities within two samples of companies. In all countries the skewness for positive equities is positive and negative for companies with negative equities; thus the distribution is asymmetrical. However, in the Czech Republic the distribution for negative equities is more flat than in other countries, where kurtosis is positive and distribution of equities is more peaked. Germany has short tails for both groups of companies.

In addition we have constructed the distribution of other financial performance metrics in the context of negative and positive equities. The growth opportunities are represented by asymmetrical peaked distribution with positive skew and kurtosis in all countries (Fig. 2). Only in the Czech Republic the growth opportunities spread from zero to one. The GO for Hungarian companies with negative equities reach 0.6. In other countries the GO range is up to 0.025 in terms of negative equities and 0.15 for positive equities. It is interesting that size of companies with negative equities has symmetrical distribution with shape close to Gaussian distribution. The similar distribution is observed with Hungarian NE companies. The size of German companies with positive equities has the most flat distribution; at the same time in other countries several peaks are in evidence (Fig. 3). In terms of profitability (Fig. 4) distribution for companies with positive equities are more symmetrical and peaked. However, in Slovakia distribution is also more symmetrical for companies with negative equities, but flatter. In the Czech Republic the distribution in terms of negative equities is observed to be asymmetrical with a long tail to the right. The total leverage distribution for positive equities is almost symmetrical without sharp peaks in Poland and Germany. In Slovakia, the Czech Republic and Hungary the distribution is very flat. Total leverage for negative equities distributes asymmetrical with high positive skew and positive kurtoses, which make histograms to be sharply peaked on the left side (Fig. 4). Fast growing companies, i.e. with higher growth opportunities, issue more debt. Companies with high investment opportunities need more external funds to invest in their products. Profitable companies tend to use less debt relying on retained earnings.

In order to conduct comparison analysis between companies with negative and positive equities in selected countries we have calculated descriptive statistic of investigated variables. Table I represents descriptive statistics of corporate performance for companies with negative and positive equities. The descriptive statistics shows the mean of the sample for each category. The growth opportunities in the Czech Republic for companies with negative equities are much higher compare with Czech companies with positive equities and companies from the other countries. It can be explained by a high number of acquisitions in the Czech Republic or sharply undervaluation of tangible assets. In Hungary Growth Opportunities also are higher for companies with negative equities (0.07) than for companies with positive equities (0.01).

At the same time the profitability is positive for the NE companies only in the Czech Republic. Companies from other countries experience negative profitability that in turn can be probably the reason of negative equities, which appear in balance sheets. Slovakia and Hungary have faced larger losses compare with other countries (–0.2). However, Slovak PE companies as well as Czech ones are more profitable than other countries (0.57 and 0.63 respectively). The least profitable PE companies are in Germany, where profitability reaches 0.09.

The negative equity in balance sheet leads to total leverage ratio greater than one. In other words total liabilities exceed companies' assets. In the Czech Republic total debt overruns total assets fourfold. Hungarian NE companies also have high total leverage ratio –3.2. At the same time Slovakia and Poland experience less debt burden: 1.9 and 1.3 respectively. In Germany, which represents a well-developed economy, the debt slightly exceeds total assets (1.1). Among PE companies Czech companies are the least leveraged (0.45). Other countries keep total debt ratio at the level 0.5. However, Germany has the highest estimate than the others (0.64). In all investigated countries except Poland the companies with Negative Equities are smaller than companies with positive equities.

The correlation analysis (Appendix A) shows differences between corporate performance in

I: *Descriptive Statistics (Mean Values)*

Countries	Variables	Negative equity observations	Positive equity observations
		Mean	Mean
Czech Republic	Growth Opportunities	0.32	0.09
	Size	11	13
	Profitability	0.3	0.63
	Total Leverage	4.22	0.45
Slovakia	Growth Opportunities	0.0034	0.006
	Size	14	15
	Profitability	–0.21	0.57
	Total Leverage	1.9	0.56
Poland	Growth Opportunities	0.004	0.01
	Size	17	16
	Profitability	–0.09	0.11
	Total Leverage	1.31	0.49
Hungary	Growth Opportunities	0.067	.014
	Size	11	12
	Profitability	–.21	.07
	Total Leverage	3.2	.5
Germany	Growth Opportunities	0.006	0.04
	Size	11	12
	Profitability	–0.04	0.09
	Total Leverage	1.1	0.64

Source: Authors' composition

companies with negative and positive equities. The strongest correlation has been observed between the size and equity of a company.

There is a medium negative correlation between the equities and the size of companies with negative equities in all countries of Vysegrad group. In Germany this correlation coefficient is higher (–0.797). However, for companies with positive equities the correlation for these variables is positive. Only in Slovakia and Poland there is negative significant correlation between total leverage and equity among NE companies (–0.257 and –0.506 respectively). In all countries positive equities are significantly and negatively correlated with total leverage; however, the coefficients are low enough.

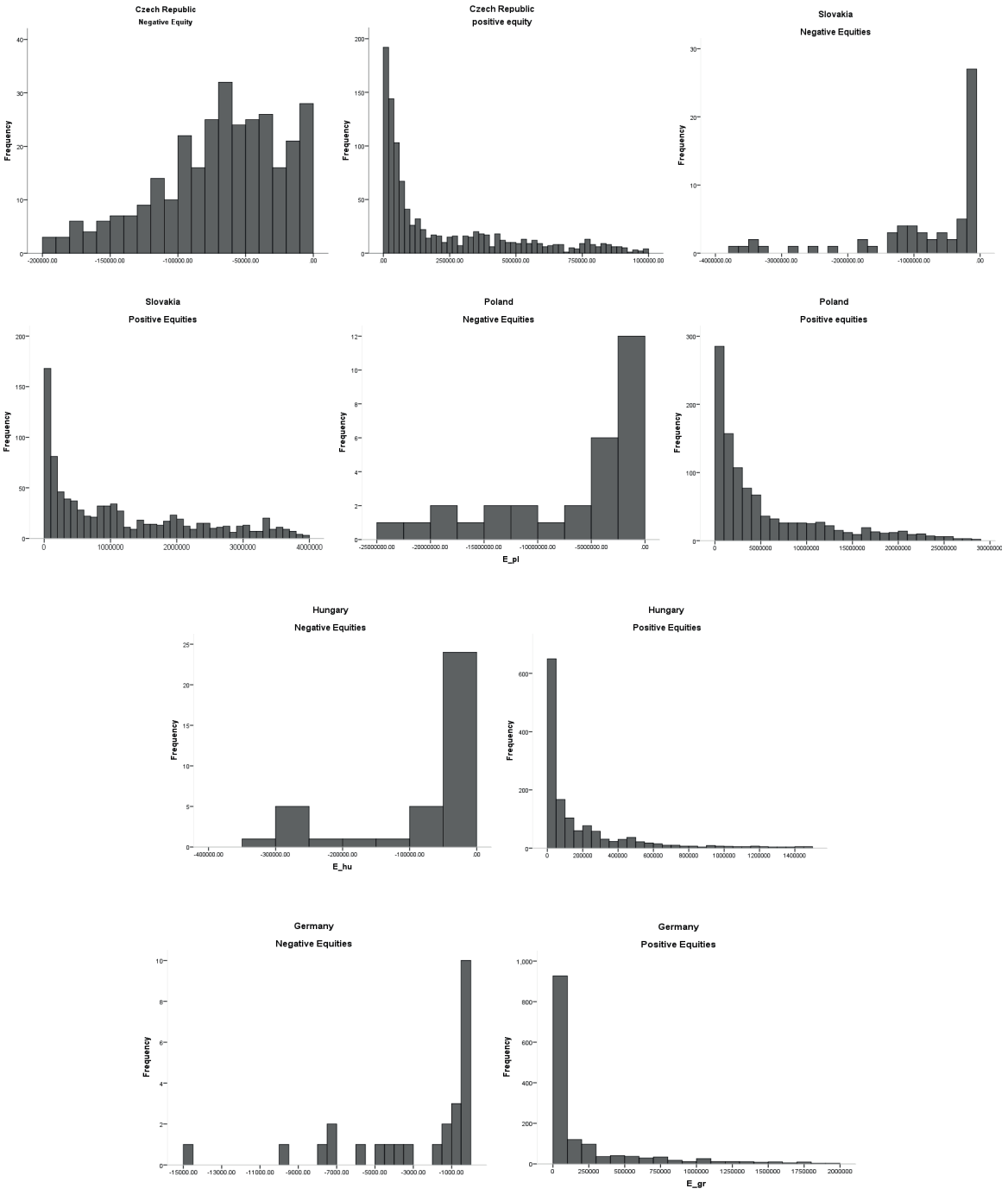
Other factors do not have any significant relations with negative equities. Otherwise, positive equities have significant and positive but low correlation with growth opportunities in Poland.

The investigated corporate performances are correlated between each other, however, the coefficients vary in terms of equity sign. Growth opportunities have negative relation with size in the Czech Republic (–0.361 for NE and –0.102 for PE) and positive relation in Slovakia (0.3 for NE). Growth opportunities also positively correlate with total leverage in the Czech Republic (0.508 for NE), but negatively low in Germany among PE companies (–0.085). In all countries except Slovakia the growth opportunities correlate with profitability among PE companies, however, the relation is positive only in the Czech Republic (0.198 for PE). The low negative correlation between profitability and size appear in the Czech Republic (–0.105) and Poland (–0.078) among PE companies. In Germany profitability positively related with size in NE companies (0.515). Total leverage negatively associates with profitability of companies. The strongest relation is evidenced among Slovak NE companies (–0.598), then Polish NE companies (–0.3) and Hungarian PE companies (–0.374).

At the same time the size negatively correlates with total leverage the Czech Republic (–0.206) for all equities and Slovakia (–0.120) for positive equities. In Hungary in both PE and NE companies size negatively correlates with profitability (–0.091 and – 0.336 respectively).

In order to determine the influence of investigated factors on the corporate equity the OLS regression analysis was conducted. For all countries size positively influences the equity of companies. Total leverage has positive significant impact on equity thus the higher total leverage leads to higher equity. Moreover, current liabilities have stronger impact on equity than non-current liabilities. Other factors as profitability and growth opportunities do not have significant relation with corporate equity.

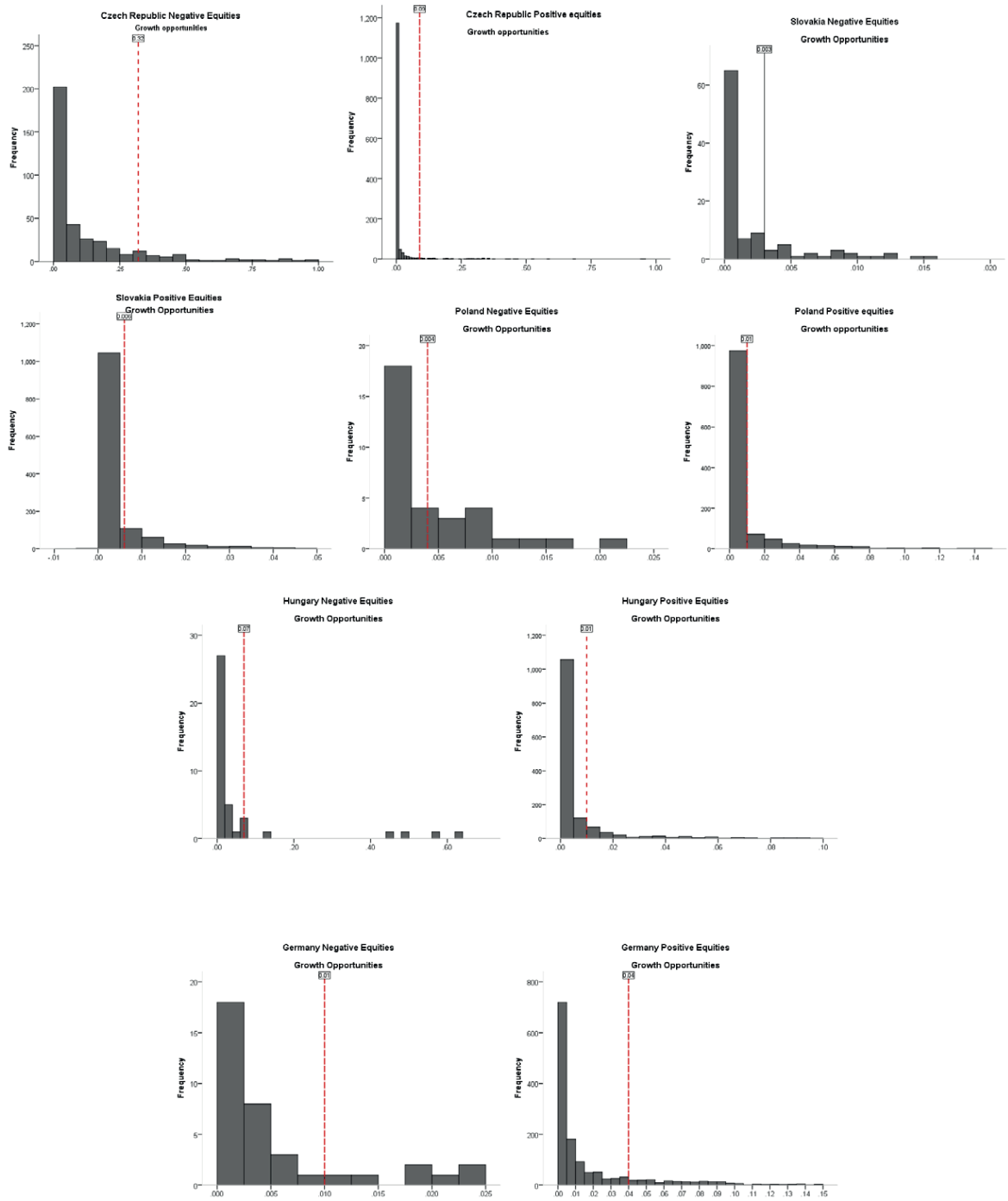
The conducted binary logistic regression analysis shows there is a 96.7% likelihood that predicted



1: *Negative and positive equities distribution*
Note: Y-axis shows the numbers of observations; X-axis shows values of Equities (in thousands of EUR)

positive equity will be positive in the balance sheet of a company (Tab. II)

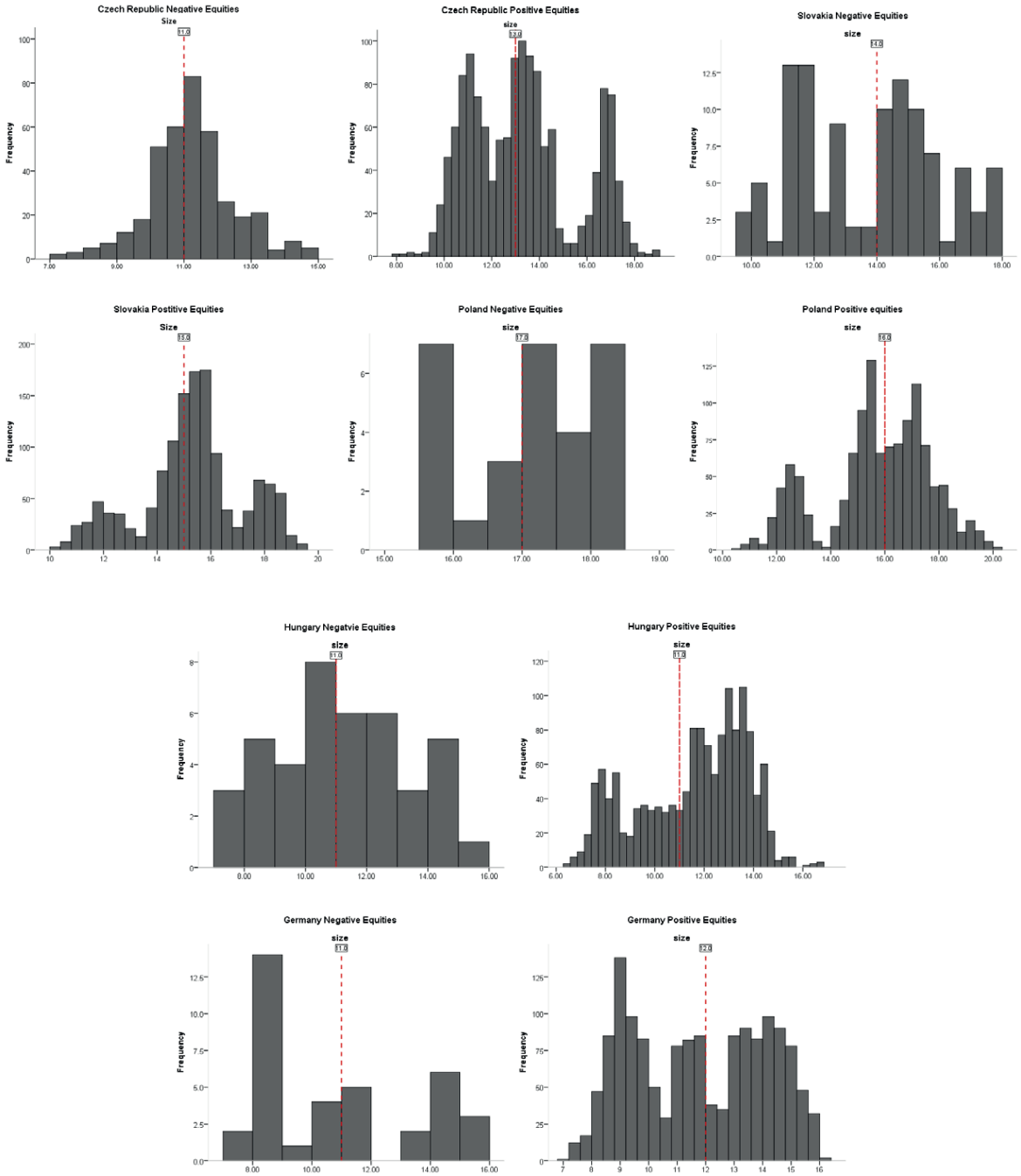
The interest coverage represented by EBIT to Total assets as a proxy does not significantly influence the presence of negative equities. Moreover, the soundness of a company does not have significant relation with absolute values of equities. Thus only two bankruptcy predictors were involved into the model (Tab. III). The coefficients B for the selected variables profitability and business activity have negative signs that the relation between the presence of negative equities and predictors of bankruptcy are negative. In addition, the business activity has stronger influence on the occurrence of negative equity in the balance sheets. In other words, the lower liquidity (lower ratio of Working capital to Total assets) is associated with higher probability of negative equities to be emerged. The same situation



2: *Growth opportunities distribution*
Note: Y-axis shows the numbers of observations; X-axis shows value of growth opportunities proxy, i.e. ratio Intangible Assets to Total Assets (in decimal)

with profitability: the lower profitability leads to higher chance of negative equity appeared in the balance sheet. Both relations are significant. Thus we can argue that there is a negative significant relation between profitability and activity as insolvency predictors and the probability of negative equities. Furthermore, the soundness or interest coverage does not influence the negative equity.

It is worth mentioning that neither the presence of negative equity nor its absolute value take influence on the bankruptcy predictors. Consequently negative equities are not a sign of bankruptcy of insolvency of a company. But the low profitability or low business activity might lead to negative equities in the balance sheet.

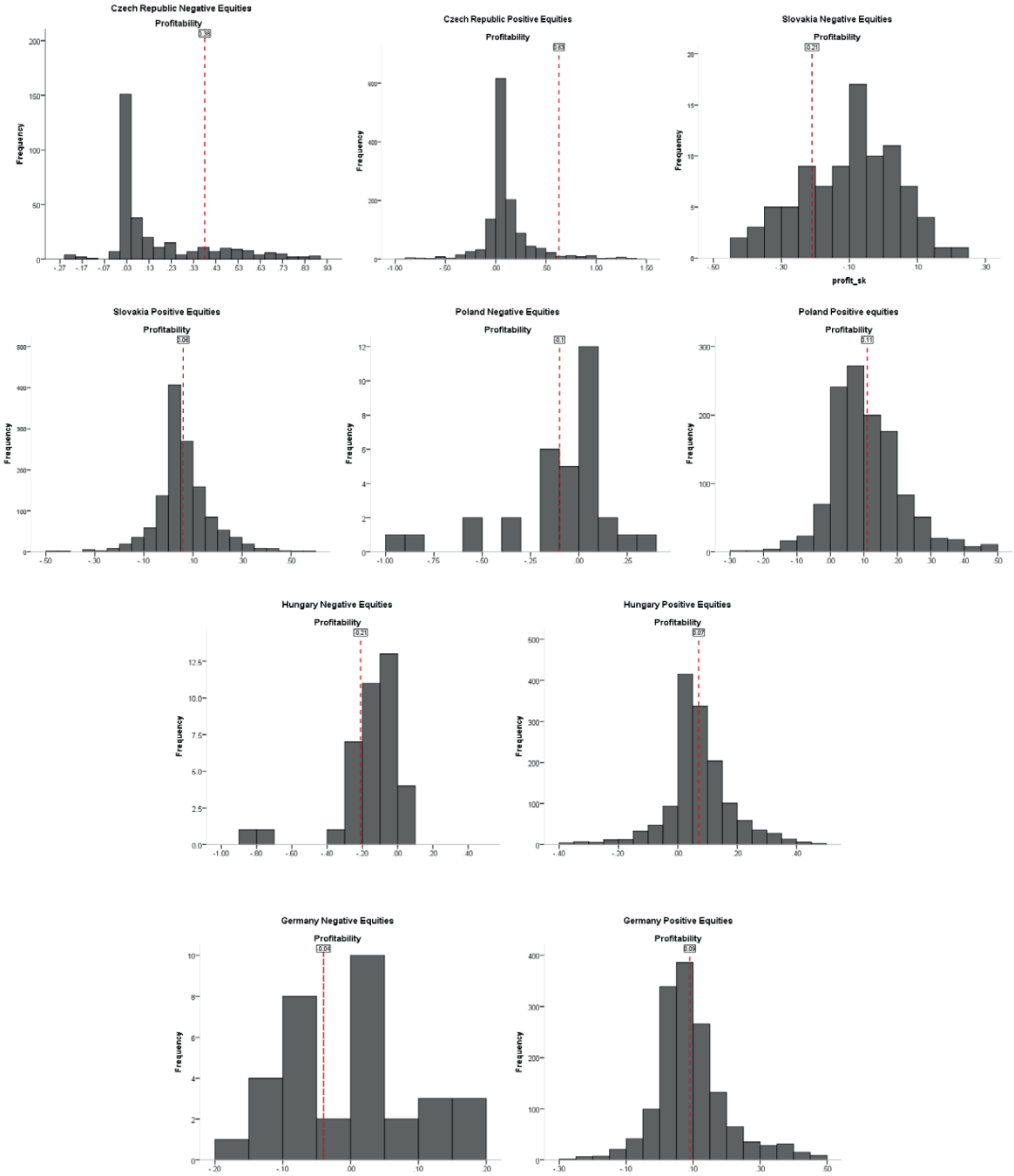


3: *Size distribution*
Note: Y-axis shows the numbers of observations; X-axis shows the size, i.e. the natural logarithm of Total Assets (in natural number)

DISCUSSION AND CONCLUSION

The research findings show differences between corporate performance in companies with negative and positive equities. The strongest correlation has been observed between size and equity of a company. Other factors do not have any significant relations with negative equities. However, positive equities have significant and positive but low correlation with growth opportunities in Poland. Thus country's specifics play significant role in relation between corporate characteristics and how negative equities influence the financial performance. In addition, the investigated corporate performances are correlated between each other; nevertheless, the coefficients vary in terms of equity sign.

The growth opportunities in the Czech Republic for companies with negative equities are much higher compared with domestic and foreign companies with positive equities. Moreover, the profitability

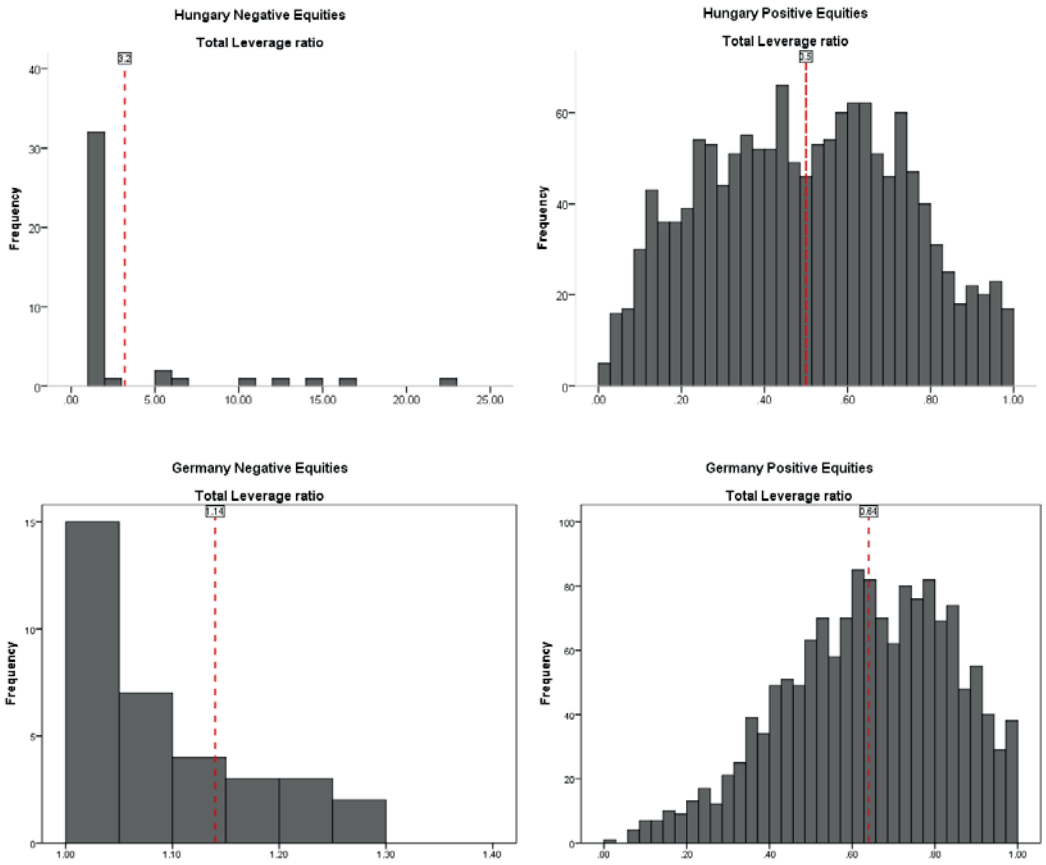


4: *Profitability distribution*
Note: Y-axis shows the numbers of observations; X-axis shows the value of profitability measure, i.e. the ratio EBIT to Total Assets (in decimal)

is positive for the companies with negative equities only in the Czech Republic. Companies from other countries experience negative profitability that in turn can be probably the reason of negative equities. The highest total leverage for companies with negative equities was observed in the Czech Republic and Hungary; and more leveraged companies with positive equities belong to Germany.

Along with previous studies we show that negative equities do not represent the sign of insolvency and companies with negative equities might be profitable and do not suffer from financial distress. Furthermore, higher growth opportunities as well as R & D (Jan and Ou, 2012) are associated with negative equities in corporate balance sheets.

Based on the binary logistic regression analysis we find that the solidity of a company as one of the bankruptcy predictor (represented by interest coverage) does not influence occurrence of negative



5: *Total leverage distribution*
Note: Y-axis shows the numbers of observations; X-axis shows the value of total leverage measure, i.e. the ratio of Total debt to Total Assets (in decimal)

II: *The classification table of probability of binary dependent variable*

Observed values			Predicted		
			Equity		Percentage Correct
			Positive (N)	Negative (N)	
Step 1	Equity	Positive (N)	16670	12	99.9
		Negative (N)	558	41	6.8
	Overall Percentage				96.7

Source: Authors' composition

III: *The variables and statistics of binary logistic regression*

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	Profitability	–1.803	.201	80.076	1	.000	.165
	Activity	–3.665	.189	377.643	1	.000	.026
	Constant	–2.669	.047	3172.640	1	.000	.069

Source: Authors' composition

equity in the balance sheet of a company. At the same time profitability and business activity have negative significant relation with the binary dependent variable that represents the presence of negative equity. In contrast the sign of equity or its absolute value does not influence the selected predictors of bankruptcy, namely profitability, soundness and business activity.
Consequently negative equities are not a sign of bankruptcy or insolvency of a company. But the low profitability or low business activity might lead to negative equities in the balance sheet.

At first sight negative equities are caused by accumulated losses from prior periods, which is obvious explanation. Nevertheless, there are some other reasons that represent further research issue. The high growth opportunities for companies with negative equities indicate the high level of intangible assets that can lead to decrease of equity. However, the most significant factors that can result in negative equities are profitability and business activity of a company. Specifically higher earnings and higher share of working capital will keep equity at the appropriate level. Negative book equity is a complicated phenomenon, which should be taken into consideration in analysis and asset pricing.

Appendix A

IV: *Correlations Negative Equities Czech Republic*

		Equity CZ	GO CZ	Size CZ	Profit CZ	TL CZ
Equity CZ	Pearson Corr.	1				
	N	388				
GO CZ	Pearson Corr.	.034	1			
	Sig. (2-tailed)	.502				
Size CZ	Pearson Corr.	**–.399****	**–.361****	1		
	Sig. (2-tailed)	.000	.000			
Profit CZ	Pearson Corr.	.026	–.009	–.071	**1**	
	Sig. (2-tailed)	.616	.863	.164		
TL CZ	Pearson Corr.	–.006	**.508****	**–0.388**	–.087	1
	Sig. (2-tailed)	.901	.000	.000	.085	

V: *Correlations Positive Equities Czech Republic*

		Equity CZ	GO CZ	Size CZ	Profit CZ	TL CZ
Equity CZ	Pearson Corr.	1				
	Sig. (2-tailed)					
GO_CZ	Pearson Corr.	–.036	1			
	Sig. (2-tailed)	.176				
Size CZ	Pearson Corr.	**.688****	**–.102****	1		
	Sig. (2-tailed)	.000	.000			
Profit CZ	Pearson Corr.	–.042	**.198****	**–.105****	1	
	Sig. (2-tailed)	.120	.000	.000		
TL CZ	Pearson Corr.	**–.090****	.000	**.069***	.011	1
	Sig. (2-tailed)	.001	.995	.010	.668	

VI: *Correlations Combined Equities Czech Republic*

		Equity CZ	GO CZ	Size CZ	Profit CZ	TL CZ
Equity CZ	Pearson Corr.	1				
	Sig. (2-tailed)					
GO CZ	Pearson Corr.	–.048*	1			
	Sig. (2-tailed)	.043				
Size CZ	Pearson Corr.	**.661****	**–.166****	1		
	Sig. (2-tailed)	.000	.000			
Profit CZ	Pearson Corr.	–.032	**.154****	**–.085****	1	
	Sig. (2-tailed)	.172	.000	.000		
TL CZ	Pearson Corr.	**–.062****	**.287****	**–.206****	–.032	1
	Sig. (2-tailed)	.009	.000	.000	.176	

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)

VII: *Correlations Negative Equities Slovakia*

		Equity SK	GO SK	Size SK	Profit SK	TL SK
Equity SK	Pearson Corr.	1				
	N	106				
GO SK	Pearson Corr.	–.055	1			
	Sig. (2-tailed)	.577				
Size SK	Pearson Corr.	**–.533****	**.300****	1		
	Sig. (2-tailed)	.000	.002			
Profit SK	Pearson Corr.	.139	.054	.176	1	
	Sig. (2-tailed)	.155	.585	.071		
TL SK	Pearson Corr.	**–.257****	–.077	–.183	**–.598****	1
	Sig. (2-tailed)	.008	.432	.060	.000	

VIII: *Correlations Positive Equities Slovakia*

		Equity SK	GO SK	Size SK	Profit SK	TL SK
Equity SK	Pearson Corr.	1				
	N	1339				
GO SK	Pearson Corr.	–.014	1			
	Sig. (2-tailed)	.597				
Size SK	Pearson Corr.	**.286****	**.075****	1		
	Sig. (2-tailed)	.000	.006			
Profit SK	Pearson Corr.	–.008	–.007	–.063*	1	
	Sig. (2-tailed)	.772	.798	.021		
TL SK	Pearson Corr.	**–.136****	**.067***	**–.120****	**–.096****	1
	Sig. (2-tailed)	.000	.014	.000	.000	

IX: *Correlations Combined Equities Slovakia*

		Equity SK	GO SK	Size SK	Profit SK	TL SK
Equity SK	Pearson Corr.	1				
	N	1446				
GO SK	Pearson Corr.	–.013	1			
	Sig. (2-tailed)	.633				
Size SK	Pearson Corr.	**.275****	**.088****	1		
	Sig. (2-tailed)	.000	.001			
Profit SK	Pearson Corr.	.011	.007	.041	1	
	Sig. (2-tailed)	.685	.777	.118		
TL SK	Pearson Corr.	**–.070****	–.003	**–.175****	**–.416****	1
	Sig. (2-tailed)	.008	.916	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)

X: *Correlations Negative Equities Poland*

		Equity PL	GO PL	Size PL	Profit PL	TL PL
Equity PL	Pearson Corr.	1				
	Sig. (2-tailed)					
GO PL	Pearson Corr.	**–.391***	1			
	Sig. (2-tailed)	.025				
Size PL	Pearson Corr.	**–.548****	.318	1		
	Sig. (2-tailed)	.001	.071			
Profit PL	Pearson Corr.	–.103	.194	.109	1	
	Sig. (2-tailed)	.568	.278	.547		
TL PL	Pearson Corr.	**–.506****	–.027	.025	–.143	1
	Sig. (2-tailed)	.003	.881	.891	.429	

XI: *Correlations Positive Equities Poland*

		Equity PL	GO PL	Size PL	Profit PL	TL PL
Equity PL	Pearson Corr.	1				
	N	1209				
GO PL	Pearson Corr.	**.150****	1			
	Sig. (2-tailed)	.000				
Size PL	Pearson Corr.	**.570****	**.074***	1		
	Sig. (2-tailed)	.000	.010			
Profit PL	Pearson Corr.	.015	**–.085****	**–.078****	1	
	Sig. (2-tailed)	.614	.003	.007		
TL PL	Pearson Corr.	**–.228****	–.003	–.033	**–.300****	1
	Sig. (2-tailed)	.000	.910	.245	.000	

XII: *Correlations Combined Equities Poland*

		Equity PL	GO PL	Size PL	Profit PL	TL PL
Equity PL	Pearson Corr.	1				
	N	1242				
GO PL	Pearson Corr.	**.152****	1			
	Sig. (2-tailed)	.000				
Size PL	Pearson Corr.	**.547****	.071*	1		
	Sig. (2-tailed)	.000	.012			
Profit PL	Pearson Corr.	.041	**–.064***	**–.085****	1	
	Sig. (2-tailed)	.148	.025	.003		
TL PL	Pearson Corr.	**–.253****	–.024	.015	**–.371****	1
	Sig. (2-tailed)	.000	.407	.599	.000	

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)

XIII: *Correlations Negative Equities Hungary*

		Equity HU	GO HU	Size HU	Profit HU	TL HU
Equity HU	Pearson Corr.	1				
	N	41				
GO HU	Pearson Corr.	.084	1			
	Sig. (2-tailed)	.603				
Size HU	Pearson Corr.	**–.462****	.215	1		
	Sig. (2-tailed)	.002	.178			
Profit HU	Pearson Corr.	–.099	.082	**.341***	1	
	Sig. (2-tailed)	.536	.609	.029		
TL HU	Pearson Corr.	–.294	–.171	**–.336***	**–.374***	1
	Sig. (2-tailed)	.062	.284	.032	.016	

XIV: *Correlations Positive Equities Hungary*

		Equity HU	GO HU	Size HU	Profit HU	TL HU
Equity HU	Pearson Corr.	1				
	N	1435				
GO HU	Pearson Corr.	–.014	1			
	Sig. (2-tailed)	.586				
Size HU	Pearson Corr.	**.385****	.043	1		
	Sig. (2-tailed)	.000	.106			
Profit HU	Pearson Corr.	–.005	**–.097****	.018	1	
	Sig. (2-tailed)	.839	.000	.498		
TL HU	Pearson Corr.	**–.238****	.024	**–.091****	**–.054***	1
	Sig. (2-tailed)	.000	.370	.001	.041	

XV: *Correlations Combined Equities Hungary*

		Equity HU	GO HU	Size HU	Profit HU	TL HU
Equity HU	Pearson Corr.	1				
	N	1476				
GO HU	Pearson Corr.	–.021	1			
	Sig. (2-tailed)	.410				
Size HU	Pearson Corr.	**.378****	.049	1		
	Sig. (2-tailed)	.000	.058			
Profit HU	Pearson Corr.	.016	**–.055***	**.063***	1	
	Sig. (2-tailed)	.532	.035	.016		
TL HU	Pearson Corr.	**–.098****	.011	**–.081****	**–.418****	1
	Sig. (2-tailed)	.000	.676	.002	.000	

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)

XVI: *Correlations Negative Equities Germany*

		Equity GER	GO GER	Size GER	Profit GER	TL GER
Equity GER	Pearson Corr.	1				
	N	37				
GO GER	Pearson Corr.	–.065	1			
	Sig. (2-tailed)	.704				
Size GER	Pearson Corr.	**–.797****	.208	1		
	Sig. (2-tailed)	.000	.218			
Profit GER	Pearson Corr.	**–.367***	.058	**.515****	1	
	Sig. (2-tailed)	.025	.733	.001		
TL GER	Pearson Corr.	.175	–.070	–.324	–.248	1
	Sig. (2-tailed)	.302	.682	.050	.138	

XVII: *Correlations Positive Equities Germany*

		Equity GER	GO GER	Size GER	Profit GER	TL GER
Equity GER	Pearson Corr.	1				
	N	1499				
GO GER	Pearson Corr.	–.034	1			
	Sig. (2-tailed)	.184				
Size GER	Pearson Corr.	**.552****	–.024	1		
	Sig. (2-tailed)	.000	.353			
Profit GER	Pearson Corr.	–.021	**–.107****	**–.053***	1	
	Sig. (2-tailed)	.415	.000	.039		
TL GER	Pearson Corr.	**–.289****	**–.085****	.009	**–.092****	1
	Sig. (2-tailed)	.000	.001	.736	.000	

XVIII: *Correlations combined Equities Germany*

		Equity GER	GO GER	Size GER	Profit GER	TL GER
Equity GER	Pearson Corr.	1				
	N	1536				
GO GER	Pearson Corr.	–.030	1			
	Sig. (2-tailed)	.242				
Size GER	Pearson Corr.	**.544****	–.020	1		
	Sig. (2-tailed)	.000	.423			
Profit GER	Pearson Corr.	–.010	**–.095****	–.030	1	
	Sig. (2-tailed)	.695	.000	.245		
TL GER	Pearson Corr.	**–.292****	**–.099****	–.016	**–.142****	1
	Sig. (2-tailed)	.000	.000	.520	.000	

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)

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