sciendo

Financial Internet Quarterly „e-Finanse" 2019, vol. 15 / no. 3, p. 56-66

DOI: https://dx.doi.org/10.2478/fiqf-2019-0020

eFinanse
financial internet quarterly

FINANCIAL HEALTH OF SMALL AND MEDIUM-SIZED COMPANIES IN THE VISEGRAD COUNTRIES

Tomáš Pražák[1]

Abstract

SMEs are a major provider of jobs, contribute to promoting the social and economic cohesion of regions and, in particular, they are important for regions facing high unemployment or lower economic development. The importance of assessing a company's financial performance has been steadily rising in recent years. The paper aims to evaluate to what extent the financial situation of a company, especially the risk of financial distress and bankruptcy, is influenced by the macroeconomic environment defined by fundamental macroeconomic variables. The analysis of the interrelationships will be carried out at the national level for Visegrad countries. The criterion for financial distress is defined not only by capital restructuring of the company or extensive layoffs, but also as the results of the negative effect of the macroeconomic environment. To achieve the goal of the paper, predictive bankruptcy models of financial distress based on financial analysis of enterprises will be used as well as regression analysis and correlation analysis. The observed period for analyses will be from 2009 to 2016. It seems appropriate to pay particular attention to examining the impact of economic growth, and the exchange rate on the financial situation of the enterprise. These indicators play an important role in defining internal and external economic equilibrium, which is also reflected in the functioning of individual businesses and sectors. Based on the results of the GMM analysis, it was found that only in the case of the Czech Republic was it possible to follow statistically significant relationships between the selected indicators.

JEL classification: E01, M21
Keywords: corporate financial distress, bankruptcy, macroeconomic environment, Visegrad countries, regression analysis

Received: 07.06.2019 Accepted: 18.09.2019

[1] Silesian University in Opava, School of Business Administration in Karviná, Department of Finance and Accounting, e-mail: prazak@opf.slu.cz, ORCID: 0000-0002-4119-8530.

Introduction

The importance of assessing a company's financial performance has steadily increased in recent years. Companies, due to increasing globalization, deepening integration, and economic structural changes at the beginning of the new millennium faced the transformation of their business activities according to current trends, merging into larger business units, selling their business or threatening financial distress or bankruptcy. The financial performance and financial health of a company are determined by the company's ability to generate added value, the return on the capital invested, or the return on inputs. For the effect of value-added creation, maximum activity is required, which is one of the basic prerequisites for the effective appreciation of the funds. The financial health of an enterprise is due to the current state of corporate finance when a financially sound business has an effective amount of capital available to cover assets, can meet its financial obligations and can convert individual assets into money as needed.

On the other hand, deteriorated financial performance is the result of mistaken decision-making processes in the company, which do not appear immediately but with a few months or years. The main causes of financial distress are found in poor business, marketing or financial management, especially when small businesses often lack a sophisticated long-term vision and strategy and only use operational management to solve common problems.

However, the financial situation of enterprises has a significant impact not only on the decision making of the company's management but also on the macroeconomic environment in which the enterprise is located. It is also generally accepted that the number of enterprises affected by financial distress is decreasing in times of economic expansion. Individual macroeconomic factors, however, affect businesses differently. This difference can be seen both in the different effects of macroeconomic factors on businesses within individual economies, as well as in different effects on individual sectors or in different effects on enterprises, differentiated according to their size.

Small and medium-sized enterprises represent an important part of an advanced economy and are important for society especially in terms of employment and economic performance. Small and medium-sized enterprises are the basis for a healthy business environment in most market economies. According to Eurostat (2019), in EU-27, this segment generates an average of 58% of GDP. The SME sector as a driving force for the national and European economy, employment, social climate, and technological advancement has become an important area of interest.

The development of small and medium-sized businesses has a considerable impact on the economic and social development of the state. For states of the former socialist bloc, SMEs play a more important role than for economically developed countries. Over the last two decades, there has been a steady increase in the number of small and medium-sized enterprises, and their influence on the social environment and the social fabric of the country is also being strengthened. On a global scale, small and medium-sized enterprises occupy the majority of the business sphere.

For this reason, the paper aims to evaluate the influence of the macroeconomic environment on the financial situation of companies, especially the risk of financial distress and bankruptcy in the Visegrad countries where mutual impact analysis will be carried out at the national level. To fulfill the aim of the paper, predictive bankruptcy models of financial distress will be used as well as regression analysis and correlation analysis. The macroeconomic determinants, such as indicators of the gross domestic product of selected countries and exchange rate, will be used to analyze the impact of the macroeconomic environment on the financial situation of the company. This paper is organized as follows. The relevant literature is reviewed in Section 2. The data and the methodology used in this paper are introduced in Section 3. The results of the empirical estimation are reported in Section 4. The conclusions and summary of the main findings are contained in Section 5.

Literature review

The basis for creating a comprehensive rating of corporate financial performance is to capture a financial analysis of businesses that can independently measure ratios of return, debt, liquidity, or activity. A financially sound enterprise does not show any signs of a financial risk to its continuing business and it can be assumed that its financial performance will not be insolvent or over-indebted in the foreseeable future. On the contrary, financial distress arises in a situation where the undertaking is experiencing serious payment difficulties which cannot

be resolved by any other than a radical change in its activities or structure. The criterion for financial distress is defined not only by capital restructuring of the company or extensive layoffs, but also as non-payment of dividends from preference shares, defaults on bonds, accumulated losses of the company or repeatedly negative cash flow.

They are found to be the main causes of financial distress in poor business, marketing or financial management, where small businesses, in particular, often do not have a sophisticated long-term vision and strategy and only apply operational management to solve common problems. Small businesses are also characterized by secondary insolvency and limited opportunities to obtain funding from external sources.

The construction of creditworthiness and bankruptcy models is directly linked to a company's financial analysis. The main causes of the financial distress of businesses were dealt with in Altman (2006) or Senbet and Wang (2012). The most common causes of financial distress were inadequate legislation, macroeconomic factors, deregulation in key industries (financial services, aviation, health, energy industry) or growing international competition and globalization.

Fundamental models for predicting financial distress and business bankruptcy based on financial indicators include the Beaver (1966) and Altman (1968) models. Predictive models are based on the hypothesis that the financial difficulty of an enterprise can be identified using the ratios of financial ratios before it becomes apparent. Edward Altman has developed a multidimensional discriminatory analysis, which has shown that in most cases bankrupt companies can be classified correctly at the one-year to two-year prediction horizon. The Altman prediction model is a basic method of assessing the financial health of an enterprise, and its modifications are used by banks and industrial companies.

On the example of the Czech Republic, Hanousek and Filer (2000) or Moravec (2013), demonstrated the practical use of Altman's bankruptcy model. They draw attention to the fact that the Altman model is suitable for predicting possible financial distress but recommend monitoring other financial indicators, especially return on equity. The comparison of individual models and their ability to identify a company in financial distress was dealt with by Machek (2014). In his article, he analyzed the Quick Kralick test, Taffler bankruptcy model, indexes IN99 and IN05, and Altman's bankruptcy Z score for Czech companies from 2007 to 2010. Based on the results of individual models that predicted the company's financial distress, he found that the most appropriate Models for the practical use of the prediction of financial distress are Altman's Z-score and indexes IN 99 and IN05.

The prediction of the financial distress of enterprises in Poland was the goal of Gruszczynsky (2004) or Fijorka and Grotowski (2012). Based on the results of the individual models, they concluded that the sudden increase in the ratio of short-term liabilities to total assets should be monitored and thoroughly investigated. Both studies also confirmed the high predictive ability of bankruptcy models in the short term.

Altman (2006) or Senbet and Wang (2012) discussed the main causes of corporate financial distress. According to them, the most common reasons for financial distress are insufficient legislation, macroeconomic factors, deregulation in key industries (financial services, aviation, health, energy) or increasing international competition and globalization. New areas of business are most often faced with financial distress, thanks to the high level of optimism at the start of business, and also to the industrial sectors, which are often affected by crises (textile, agriculture or financial sectors).

According to Liu and Smith, 2007, the predictive value of financial distress in macroeconomic models is high. This relationship is most often examined in the conditions of advanced economies. In addition to Liu and Smith, Wadhwani (1986) also addressed the impact of adverse macroeconomic developments on the deteriorated financial position of US businesses. According to results, a high inflation rate has an impact on the number of companies at risk of financial distress or the number of bankrupt businesses. Other important indicators are nominal and real interest rates, wage levels or aggregate demand rates.

A study involving businesses from 34 emerging countries was developed by Bopkin (2009). The main aim of this work was to find the relationship between real GDP per capita, inflation, market capitalization, interest rates on the one hand and capital structure, debt-to-equity ratio and short-term liabilities on the other. The regression method revealed a negative relationship between GDP and capital structure, or a positive relationship of interest rates to the capital structure of businesses. The debt-to-equity ratio is influenced positively by inflation and market capitalization negatively affects the size of short-

term liabilities.

Bordo and Schwartz (2000) analyzed the nature of banking, currency and debt crises from the last century to the present and their impact on business failure. They found that business performance deteriorated during economic crises even though the IMF had provided loans to mitigate the impact of the crisis.

Estimates of the macroeconomic model explaining the share of economic entities that are experiencing a deteriorated financial situation that could lead to bankruptcy in the Visegrad countries are discussed by Jakubik and Škerlíková (2014). The empirical analysis confirms the crucial role of the macroeconomic environment in the economic situation of the Czech enterprises and identifies the key macroeconomic determinants of corporate bankruptcy. As the explanatory variables in the single factor nonlinear regression model, the real consumption growth rate, the real investment growth rate, the real interest rate, the change in the growth rate of real foreign demand, the change in the nominal exchange rate growth and the change in the real wage growth rate were chosen.

Growing debt also increases the sensitivity of businesses to adverse macroeconomic conditions. The negative impact of global crises on the corporate sector, generally measured by the development of real GDP, was explained by Jakubík and Teplý (2008) or Hunter and Isachenkova (2003). Reflecting the macroeconomic environment, Mokhova and Zinecker (2014) also deal with the financial situation of businesses. For their work, they have selected companies operating in the manufacturing industry in the Czech Republic, Slovakia, Hungary, Poland, Greece, Germany, and France. Basic macroeconomic factors at work include short- and long-term interest rates, inflation, M2 monetary aggregate, government debt, tax revenues, unemployment rate, and year-on-year change in real GDP. The authors emphasize the importance of addressing the impact of the macroeconomic environment on the financial situation of the company. Business sensitivity to unfavorable developments in the macroeconomic environment increases with their rising indebtedness. Higher indebtedness also leads to a higher probability of bankruptcy and higher sensitivity to adverse negative external shocks. In general, it is accepted that an economic downturn leads to a reduction in consumer demand, which results in a decrease in the sales of businesses.

Many empirical studies also address the impact of macroeconomic factors on stock prices or returns, as one of the indicators of economic prosperity, especially for large businesses. Plachy and Rasovec (2015) pointed out that gross domestic product, inflation, interest rate, and unemployment rate are the main macroeconomic factors influencing the development of the financial performance of a company characterized by the development of the company's shares. Long-term dynamic links between macroeconomic factors and stock market indices in the Czech Republic, Hungary, Poland, and Romania were examined by Angelache et al. (2014). Using a vector autoregressive model, they demonstrated a significant impact of macroeconomic variables on the financial situation of large corporations, especially during the global financial crisis in 2008 and 2009. Similarly, Barbič and Čondič (2011) dealt with this topic in the Czech Republic, Croatia, Hungary, Poland, and Slovenia.

The above-mentioned authors illustrate the importance of addressing the impact of the macroeconomic environment on the financial situation of a company. The approaches and results of individual studies differ. Differences can be found not only in national results, but also within individual sectors of economic activity. In the national economy there is a cyclical development, and therefore it is important for the actual financial performance of the company to note the current stage of the business cycle in the economy. The business cycle captures short-term fluctuations in real GDP around a potential product. The relationship between the rate of real GDP growth and the financial situation of a company is generally positive, with rising real GDP and higher household consumption increasing corporate profits and the fundamental value of shares. This assumption is confirmed in their works by Bordo and Schwartz (2000), Hunter and Isachenková (2003), Jakubík and Teplý (2008), Bopkin (2009), Barbič and Čondič (2011) or Angelache et al. (2014). On the other hand, Plachý and Rasovec (2015) or Stoklasová (2018) point to the opposite effect, who see the negative effect caused by the lack of capital of companies during the economic boom. Based on their results, the authors conclude that not only the real GDP indicator, but also other macroeconomic factors behave differently across individual economies and enterprises according to their size.

The threat of financial distress is also affected by the change in the exchange rate. The strengthening of the domestic exchange rate deteriorates the position of pro-

export companies. They earn lower sales for their products and their profits fall. Despite the possible response in the form of cost reductions, the appreciation of the domestic currency increases the likelihood of bankruptcy, especially of highly indebted companies.

Data and methods

In the cited articles, the influence of the macroeconomic environment on the financial situation of the company is analyzed through regression models or correlation analysis. In the initial phase of the research, the database of business data and selected macroeconomic factors of the Visegrad Group countries was created. The Orbis or Amadeus business data databases and the macroeconomic data of the available Eurostat database were used. The literature review shows the importance of focusing on business behavior and macroeconomic indicators during individual business cycles. For this reason, the period under investigation is between 2009 and 2016.

The analysis of mutual relations will be carried at the national level for Visegrad countries (Czech Republic, Hungary, Poland, Slovakia). The Visegrad Group of Countries emerged as a result of the joint efforts of these countries for European integration, which was reached 1 May 2004 with the accession to the European Union. These countries share common cultural and intellectual values and their joint activities are aimed at strengthening stability in the Central European region. Despite the common features of each country, the transformation process of their economies has been different, and it is, therefore, possible to expect different financial performance of companies and a different assessment of the impact of the macroeconomic environment on the financial performance of enterprises. However, due to their economic and political focus, economic development had a different effect. For these reasons and due to high economic cooperation, it is important to monitor the differences in the effect of individual macroeconomic indicators on the financial performance of companies.

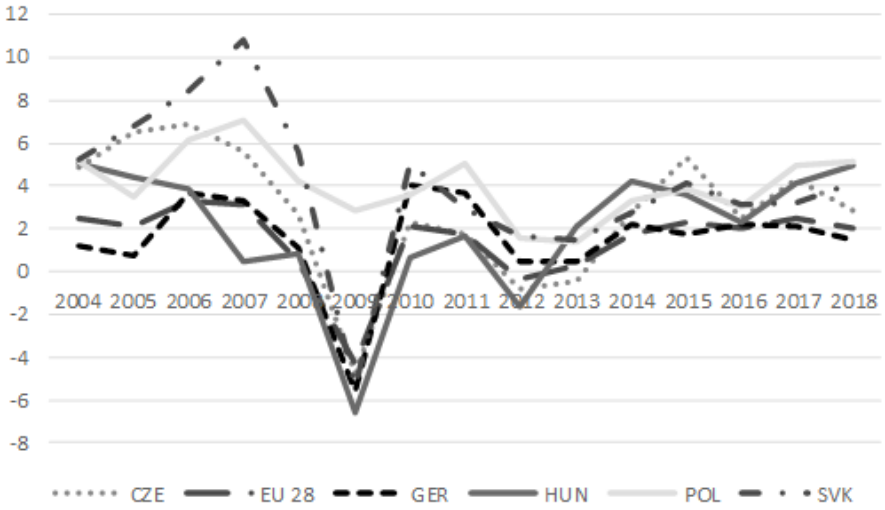
The international trade of countries of the Visegrad Group is mainly focused on the market in the EU, mainly in Germany. For a quarter of exporters, exports to Germany account for more than 30% of the total export of the company, almost every tenth of them exports over half of the production. Over two-thirds of domestic exporters to Germany (69 percent) also expect that exports to our largest neighbor will increase this year. More than two fifths and 42 percent of exporters, according to the analysis of the Association of Small and Medium-Sized Enterprises and Tradesmen of the Czech Republic (AMSP), plans to increase their production capacity in the future due to the demand of German partners. For this reasons and based on literature review, the growth of real GDP of each economy (GDP), the growth of real GDP of Germany (GDP_GE), the growth of real GDP of the EU-27(GDP_EU), and the growth of the Exchange rate of domestic currency (LCU) to US Dollar (USD) were chosen.

The economic development of individual V4 countries was affected in the period under review by the euro area debt crisis, which was created as a result of the global financial crisis in 2008. All the results are shown in Figure 1. The economies of the Czech Republic, Hungary and Slovakia were affected by structural dependencies that make them highly sensitive to the development of the economic cycle abroad and affect their overall international competitiveness. By contrast, Poland showed a high resilience to the crisis in this period, due to the positive impact of the large domestic market and lower export dependency.

The tendency of slowing economic performance in 2009 was already evident in the fourth quarter of 2008 when the industrial production outbreaks caused by the dramatic weakening of foreign demand were reflected. The worst results in GDP growth in the period under review were achieved by Hungary, which had already faced the problems of its economy before 2009. The period between 2013 and 2014 became a turning point for the subsequent economic development of V4. Economic growth was driven by rising domestic demand, reflecting the optimistic expectations of consumers and the business sector, favorable employment developments and growth in disposable income at low inflation. The drawing of EU structural funds also supported the dynamic growth in investment. Due to the depletion of European funds from the ending financial perspective, economic growth slowed slightly in 2016.

Significant recovery occurred in 2017 when a marked rise in investment and foreign trade added to steady growth in consumption. The current dynamic growth in the V4 countries translates into a gradual convergence of economies to the most advanced EU countries, but it will be important for countries to cope with their challenges to further economic performance.

Figure 1: Development of real GDP growth in Visegrad countries



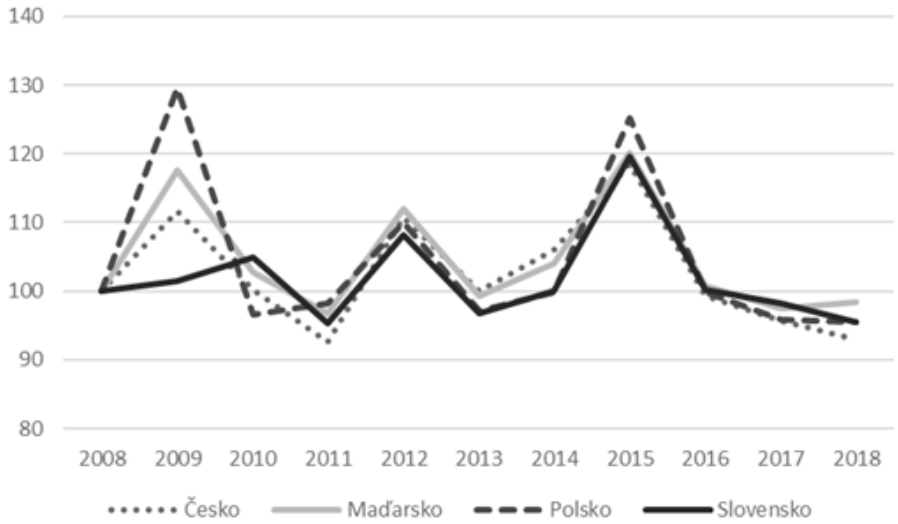
Source: Eurostat (2019)

The actual development of GDP was also reflected in the development of the LCU / USD exchange rate captured in Figure 2. The only V4 country that joined the euro area in 2009, using the euro as its currency, is Slovakia. The Slovak exchange rate was not affected by the financial crisis in 2009 as it was part of the ERM II pre-accession system. In subsequent years, individual currencies weakened against the dollar in 2012 and 2015, in response to the current economic situation.

Altman Z-Score

The practical use of Altman's bankruptcy model in the Visegrad Group countries was confirmed by Moravec (2013), Machek (2014). The Altman Z-score refers to a business crisis valuation model using multiple discriminatory analysis. Altman (2006) first chose 22 indicators broken down into liquidity, profitability, debt, solvency, and asset management groups and tested them on two groups of companies where bankruptcy companies were in one of the groups. It is based on the assumption that there have been some anomalies in the company for several years before the bankruptcy, which contain indications of future problems that are characteristic of the vulnerable companies. Altman's original bankruptcy model was subsequently modified for companies that are not tradable on capital markets (Z´ Score). In particular,

Figure 2: Development of LCU/USD



Source: Eurostat (2019)

the form of indicator X4 has changed in this variant, which counts the book value of equity in the numerator. Additionally, the weights of the ratio ratios have changed, and the importance of each factor has changed. Altman Bankruptcy Model for Limited Liability Companies:

$$Z'score = 0{,}717X1 + 0{,}847X2 + 3{,}107X3 + + 0{,}42X4 + 0{,}998X5 \quad (1)$$

X1 = (current assets - short-term liabilities) / total assets.

X2 = retained earnings / total assets,

X3 = EBIT / asset value,

X4 = Equity / (long-term liabilities + short-term liabilities + bank loans),

X5 = sales / total assets.

From Z > 2.9 the company is in good shape

1.23 <Z <2.9 gray zones of unmatched results

From Z <1.23 for a business, bankruptcy is very likely

Correlation analysis

Correlation analysis represents the relatively linear relationship of the change of two variables, which takes values in the range of -1 to -1. Negative correlation values show the mutual inverse relationship of two variables. If the quantities are developed in the same direction, the correlation coefficient is positive. If the correlation coefficient is equal to zero, the time series together are not correlated. The basic element of the correlation analysis is the correlation matrix, where it is possible to monitor the statistical significance of the relationship of two variables based on t-statistics and probability (Dougherty, 2011). Liou and Smith (2007) conclude that the number of bankruptcies is rising during the economic recession, while the number of bankruptcies is decreasing. To confirm this hypothesis, Liou and Smith (2007) have just used the correlation analysis.

To calculate the Pearson correlation coefficient, it is necessary to know the difference of the value X (macroeconomic variables) from its average value, the difference of the Y value (the financial performance of the enterprise measured by the Altman model) from its average value, the number of observations n and the standard deviation with both variables. This relationship Brooks (2002) depicts as follows:

$$r_{xy} = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{(n-1)s_x s_y} \quad (2)$$

Regression analysis

Because of the large amount of input data, panel regression methods are often used to analyze relationships and relationships between data in a two-dimensional space where time and cross-sectional data are combined. Panel data can be used when a set of units that are related or very close to a particular feature are available and repeat observation over time.

The initial condition for performing tests and regression analyses of modern econometrics is the stationarity of the time series used. If the data is stationary, time series of the same final diameter and steady course are achieved. A unit root test is used to verify stationarity. Regression methods of GMM, which is, according to Halla (2005), suitable for capturing the influence of independent variables on the dependent variable in annual data tracking.

$$L_{it} = \alpha_1 + \beta_1 * \Delta L_{it-1} + \beta_2 * X_{1it} + \beta_3 * X_{2it} + + \cdots + \beta_n * X_{nit} + \varepsilon_{it} \quad (3)$$

The dependent variable Lit in the formula represents the financial performance of the enterprises, the unknown variable X represents the macroeconomic factors, the regression constant, the final parameter of the regression function and the residual component. All explanatory variables will be tested for their statistical significance to ensure that the results achieved are sufficiently representative. At the same time, it will also be important to test and verify the overall robustness of the model followed by the Sargan / Hansen J-test, which was developed by John Denis Sargan and extended by the Lars Peter Hansen (2014). The Sargan / Hansen J-test determines to what extent the method is able to give the same results even under the load of slight parameter changes. The null J-test hypothesis assumes that the model is robust.

Results

In the first phase of the analysis, the Altman model was calculated. The resulting values divided the companies into three groups according to the probability of possible bankruptcy. As can be seen from Table 1, Table 2 and Table 3, past years have been characterized

Table 1: The results of Altman Z-score – SME in the zone with corporate financial distress (Z < 1,2)

Country	2009	2010	2011	2012	2013	2014	2015	2016	Average
CZE	1605	1517	1496	1509	1533	1461	1419	1425	18,87%
SVK	1505	932	906	859	873	857	831	826	15,58%
POL	998	953	954	966	954	953	935	997	12,07%
HUN	965	909	874	889	898	844	813	818	30,37%

Source: Author's calculation

by a decreasing number of endangered businesses. Table 1 shows the number of enterprises at risk of financial distress and their percentage share. Hungary recorded the highest percentage of threatened SMEs in the survey. Consequently were ranked the Czech Republic, Slovakia and finally, Poland.

According to Table 2, it is clear that more than 30% of SMEs were in the zone of potentially endangered enterprises. Poland and Slovakia recorded the highest number with more than 35%. On the contrary, the least were found in the Czech Republic. The results also show that the largest number of endangered businesses was noted in the 2009 crisis year. In the years to come, it had a downward trend.

Table 3 shows the number of enterprises that, according to the results of Altman's analysis, belong to the Healthy Business Zone. Only in the case of the Czech Republic was there more than 50% of healthy companies. By contrast, only 37% were in this zone in Hungary. In 2015, the most healthy companies were in all the countries surveyed.

The interrelationship between the development of the economy and the number of firms at risk of financial distress is evident from previous results. This relationship was subsequently quantified by Pearson's correlation analysis. Table 4 shows the statistically significant

Table 2: The results of Altman Z-score – SME in the grey zone (1.2 <Z <2.9)

Country	2009	2010	2011	2012	2013	2014	2015	2016	Average
CZE	2375	2493	2500	2594	2557	2429	2295	2343	30,89%
SVK	2565	2175	2258	2222	2233	2170	2129	2138	36,71%
POL	2840	3080	3122	3114	3149	3083	3034	3095	38,37%
HUN	868	885	919	963	975	962	923	924	32,14%

Source: Author's calculation

Table 3: The results of Altman Z-score – SME in the zone for healthy companies (Z > 2.9)

Country	2009	2010	2011	2012	2013	2014	2015	2016	Average
CZE	3885	3882	3907	3824	3855	4065	4238	4202	50,24%
SVK	2025	2980	2926	3007	2987	3064	3134	3127	47,71%
POL	4150	3956	3914	3910	3887	3954	4019	3898	49,58%
HUN	1029	1978	1078	1029	1011	1094	1165	1160	37,48%

Source: Author's calculation

Table 4: Pearson correlation analyses

Country	GDP	GDP_EU	GDP_GE	EX_RATE
CZE	0.0040	0.0030	0.0037	0.0053
SVK	0,0024	0,0034	0,0049	0,0017
POL	0,0059	0,0044	0,0052	0,0073*
HUN	0,0021	0,0032	0,0024	-0,0011

Note: ***, ** or * denotes statistical significance at 1%, 5% or 10%.
Source: Author's calculation

Table 5: The results of GMM analyses

Country	Altman (-1)	GDP	GDP_EU	GDP_GE	EXCH	J-Stat.
CZE	-0,1002* (0,0005)	0,0025* (0,0007)	-0,0001* (0,0002)	-0,0003* (0,0001)	-4,3389* (1,3905)	16,9505
SVK	0,1106* (0,0003)	0,0002* (0,0004)	-0,0001 (0,0002)	-0,0001 (0,0001)	-6,1686 (5,6159)	20,6061
POL	0,0302* (0,0069)	0,0001* (0,0000)	-0,0001 (0,0003)	-0,0001 (0,0002)	-0,1202 (0,5774)	56,9944*
HUN	-0.0154 * (0.0009)	0,0002* (0,0002)	0,0001 (0,0001)	-0,0001 (0,0000)	-0,0192 (0,0221)	33,6237*

Note: ***, ** or * denotes statistical significance at 1%, 5% or 10%. Number of observations are 47 932. Std. Errors are captured in ().
Source: Author's calculation

correlations between the selected variables. The results indicate that the observed relationship is weak due to a large number of monitored indicators with positive direction.

After the linear relationship was detected, it was necessary to determine the interdependence between the selected indicators (Table 5). A test of the fixed effects in models were not statistically significant and year dummies were not used. Based on the results of the GMM analysis it can be concluded that the chosen model was statistically significant only for the Czech Republic and Slovakia where it was not possible to reject the zero hypotheses on the statistical significance of the model expressed by the Sargan Hansen coefficient (J-stat.). On the example of the Czech Republic, it can be noticed that all the effects are statistically significant when the most important influence on the financial situation of the company was the exchange rate CZK / EUR. It can be argued that with the decline of the exchange rate and the strengthening of the Czech crown, the financial position of the SME in the Czech Republic grew. In this case, the exchange rate interventions that played a major role in the development of the exchange rate played an important role. The results indicate that despite the lower earnings per trade gained due to the Czech crown's position, the higher number of trades resulted from economic growth which positively fueled the financial situation of the companies.

Conclusion

There is usually no doubt about the positive impact of the existence of small and medium-sized enterprises (SMEs) in the region. Businesses (whether large or small) contribute to job creation and economic growth (although other factors are also influencing GDP growth). SMEs are a major provider of job opportunities. SMEs contribute to promoting the social and economic cohesion of regions and, in particular, they are important for regions facing high unemployment or lower economic development. The European Union calls SMEs the backbone of the European economy. In regions affected by structural change, SMEs help to mitigate the negative effects of structural change, for example by employing workers who are dismissed from large enterprises limiting their activity. This positive effect is particularly important in post-communist countries, which face the challenges of moving from a centrally planned to a market economy.

SMEs stimulate competition in the economy and a healthy business environment. SMEs are increasing competitive pressure, forcing other companies to increase their productivity, improve quality, introduce innovations or reduce costs. Increasing efficiency and introducing innovations in businesses also leads to increased competitive strength across the economy. Of course, consumers can benefit from this as well, because it means a choice of a wider and higher quality assortment or a lower price.

The paper aimed to evaluate to what extent the financial situation of the company, especially the risk of financial distress and bankruptcy, is influenced by the macroeconomic environment defined by fundamental macroeconomic variables. The inter-relationship analysis was carried out at the national level for SMEs for the Visegrad Group countries.

Macroeconomic determinants, such as indicators of the country's GDP, and the exchange rate, were used to analyze the impact of the macroeconomic environment on the financial situation of the company. Business sensitivity

to unfavorable developments in the macroeconomic environment increases with their rising indebtedness. Higher indebtedness also leads to a higher probability of bankruptcy and higher sensitivity to adverse negative external shocks. In general, it is accepted that economic downturn leads to a reduction in consumer demand, which results in a decrease in the sales of businesses. If the enterprise does not have sufficient capital to cover these losses, the company gets into financial problems that may end up in bankruptcy.

Based on the results of the GMM analysis, it was found that only in the case of the Czech Republic was it possible to follow statistically significant relationships between the monitored indicators. For other countries, this relationship was negligible, the most significant factor was domestic GDP. The main indicators capturing mutual influence were the CZK / EUR exchange rate and the GDP of the Czech Republic. In the economy, the exchange rate changes, especially for exporters and importers, where the weaker exchange rate increases the value of net exporters, while it decreases for importers. Where a portion of income or expense is in a currency other than domestic currency, the entity is exposed to currency risk. In the case of an importer, expenditure in foreign currency exceeds the amount of income in that currency, and the domestic equivalent of the domestic currency is increasing as the domestic currency is weakened against the foreign currency. The opposite trend is evident in the case of exporters, whose incomes are rising in the case of weakening of the domestic currency in relation to foreign currencies. The countries of the Visegrad Group are among the pro-export countries and it is therefore important to monitor the interrelationship between the exchange rate and the financial performance of businesses in the context of the economic growth of individual countries as well as the main trading partners.

Acknowledgment

An earlier version of this paper has been presented at the International Conference on Decision making for Small and Medium-Sized Enterprises (DEMSME 2019).

References

Altman, E. (1968). Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. Journal of Finance, 23(4), 589-609.

Altman, E. (2006). Corporate Financial Distress and Bankruptcy. 3rd ed. New Jersey: John Wiley and Sons, Inc.

Angelache, G.V., Kralik, L.I., Acatrinei, M., Pete, S. (2014). Influence of the Eu Accession Process and the Global Crisis on the Cee Stock Markets: A Multivariate Correlation Analysis. Rom. J. Econ. Forecast, 17, 35–52.

Barbić, T., Čondić-Jurkić, I. (2011). Relationship between Macroeconomic Fundamentals and Stock Market Indices in Selected CEEC. Economic Review, 62, 113–133.

Beawer, W. (1966). Financial Ratios as Predictors of Failure. Journal of Accounting Research, 4(1), 71-111.

Bopkin, G.A., (2009). Macroeconomic Development and Capital Structure Decisions of Firms: Evidence from Emerging Market Economies. Studies in Economics and Finance, 26(2), 129–142.

Bordo, M.D., Schwartz, A.J. (2000). Measuring Real Economic Effects of Bailouts: Historical Perspectives on how Countries in Financial Distress Have Fared with and without Bailouts. Carnegie-Rochester Conference Series on Public Policy, 53, 81-167.

Brooks, Ch. (2002). Introductory Econometrics for Finance. Cambridge: Cambridge University.

Dougherty, C. (2011). Introduction to Econometrics. 4th ed. New York: Oxford University Press.

Fijorek, K., Grotowski, M. (2012). Bankruptcy Prediction: Some Results from a Large Sample of Polish Companies. International Business Research, 5(9), 70-77.

Gruszczynski, M. (2004). Financial Distress of Companies in Poland. International Advances in Economic Research, 10(4), 249-256.

Hall, A.R. (2005). Generalized Method of Moments (Advanced Texts in Econometrics). Oxford: University Press.

Hanousek, J., Filer, R.K. (2000). The Relationship between Economic Factors and Equity Markets in Central Europe.

Economics in Transition, 8, 623 - 638.

Hansen, L.P. (2014). Uncertainty Outside and Inside Economic Models. Journal of Political Economy, 122(5), 945–987.

Hunter, J., Isachenkova, N. (2003). Aggregate Economy Risk and Company Failure: An Examination of UK Quoted Firms in the Early 1990s. Economics and Finance Working Papers, Brunel University, no. 03.

Jakubík, P., Škerlíková, T. (2014). Makroekonomické determinanty úpadku firem v ČR. Český finanční a účetní časopis, 2, 69-80.

Jakubík, P. & Teplý, P. (2008). The Prediction of Corporate Bankruptcy and Czech Economy´s Financial Stability through Logit Analysis. IES Working Paper, no. 19.

Liou, D., Smith, M. (2007). Macroeconomic Variables and Financial Distress. Journal of Accounting –Business and Management, 14, 17-31.

Machek, O. (2014). Long-term Predictivity Ability of Bankruptcy Models in the Czech Republic: Evidence from 2007-2012. Central European Business Review, 3, 14-17.

Mokhova, N., Zinecker, M. (2014). Macroeconomic Factors and Corporate Capital Structure. Journal Procedia-social and Behavioral Sciences, 110, 530-540.

Moravec, T. (2013). The Bankruptcy in the Czech Republic – Influence of Macroeconomic Variables. Acta Academica Karviniensia, 13(3), 136-145.

Plachy, R., Rasovec, T. (2015). Impact of Economic Indicators on Development of Capital Market. E +M Ekonomie a Management, 18, 101–112.

Senbet, L.W., Wang, T.Y. (2012). Corporate Financial Distress and Bankruptcy: A Survey. Foundations and Trends in Finance, 5(4), 243-335.

Wadhwani, B.S. (1986). Inflation, Bankruptcy, Default Premia and Stock Market. The Economic Journal, 96(381), 120-138.