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THE IMPACT OF FIRM SIZE ON CORPORATE INDEBTEDNESS: A CASE STUDY OF SLOVAK ENTERPRISES

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Abstract

Research background: Debt is considered a normal part of enterprises these days. If enterprises do not have enough equity, they will start to use a large amount of debt which is mainly associated with indebtedness. Rising indebtedness can be a difficult financial situation for business entities in the form of default and inability to meet their liabilities.
Purpose: The main aim of this paper is to perform a debt analysis of enterprises operating in sectors that are considered leading in the conditions of Slovakia, such as the manufacturing and construction sector, and subsequently, to examine whether the size of the enterprise has a significant impact on selected indebtedness ratios.
Research methodology: Firstly, the debt analysis was performed using the six selected indebtedness indicators on a sample of 846 enterprises. Secondly, a more detailed analysis, focused on examining the existence of statistically significant differences between individual indebtedness ratios concerning the size of the enterprise, was realized using the non-parametric Kruskal-Wallis test. At the end of the research, the Bonferroni corrections were used to identify where the stochastic dominance occurred.
Results: The impact of the enterprise's size on the calculated indebtedness indicators is confirmed by the results of ANOVA, based on which it can be argued that statistically significant differences between the calculated indebtedness indicators exist between large and small enterprises, as well as an inequality

of medians between large and medium-sized enterprises. As a result, the median values of the debt ratios of small and medium-sized enterprises are the same.
Novelty: The contribution of this paper is a new feature of the application of debt analysis for the evaluation of corporate performance. There are only a few papers in Slovakia that focus in detail on an analysis of the indebtedness of individual enterprises and with an examination of the determinants that affect this indebtedness, which is, however, an added value of our contribution.

Keywords: financial performance, indebtedness, indebtedness indicators, firm size, analysis of variance

JEL classification: D22, G33, L25

Introduction

One of the main factors that can affect an enterprise's performance is indebtedness. Every enterprise operating in the market maximizes its performance and minimizes its financial costs by maintaining an optimal capital structure. The most important financial decision is choosing the right combination of equity and debt because of its significant impact on an enterprise's financial performance (Sumani, Roziq, 2020, pp. 85–93; Grofcikova, 2020, pp. 12–23). Debt financing is the type of external financing used by enterprises (Karpavicius, Yu, 2019, pp. 167–181). In recent years, there has been a significant increase in debt financing, which indicates the economic expansion of companies, and the issue of indebtedness is connected with this financial source.

Indebtedness is associated with using external financial sources to finance the enterprise's activities (Valaskova, Kliestik, Kovacova, 2018, pp. 105–121). In general, financing the enterprise's assets only from equity reduces its overall profitability. On the contrary, the financing of all corporate assets by external sources of finance is associated with problems in obtaining them. The debt analysis deals with searching for the optimal relationship between equity and debt (Ma, Xu, 2020, pp. 1037–1047). It is not possible to state which financial source is suitable for an enterprise to finance its specific activities. Many professionals in the area of financial management have dealt with this idea, and have developed several theories about capital structure issues (Narayan, Phan, Liu, Ibrahim, 2021). In the past, the question of the existence of a unique combination of debt and equity has become the subject of frequent discussions in the literature (Silaghi, 2018, pp. 123–143). There are many theories concerning the ratio of equity and debt financing. Some theories assume a maximum debt ratio of 50%, e.g.

in this case, the ratio of equity to debt is one to one. Other theories assume a maximum debt ratio of 80% but this ratio primarily depends on the industry, in which the enterprise operates (e.g., Lazaroiu, Kliestik, Novak, 2021, pp. 20–30). The level of indebtedness is mainly related to the issue of external financial sources, which is a simpler and cheaper method of financing for enterprises.

The main aim of this paper is to perform a debt analysis of Slovak enterprises operating in the manufacturing and construction sector using a financial analysis, and, subsequently, to examine whether there are statistically significant differences between the individual indebtedness indicators concerning the size of the enterprise.

The paper is divided into the following sections. The first part is focused on introduction to the fundamental theoretical basis using the literature review. The second part describes the methods for meeting the objective of this paper, which is debt analysis and then verifying whether the size of the enterprise has a significant impact on selected debt indicators. The third part is focused on the description of the results obtained by calculating the selected indebtedness indicators and the statistical evaluation of possible differences in the values of the ratios. The fourth part is focused on the description of the obtained results, which are compared in the context of other relevant studies that have been published in recent years. The conclusion of the paper summarizes the results of the research and presents both its limitations and future research.

1. Literature review

The value of each enterprise is affected by its performance, which is a dominant part of every business entity operating in the market (Sumiati, 2020, pp. 211–218). The concept of business performance is currently one of the relatively frequently used terms, that is no longer clearly defined in theory. The main reason is primarily the complexity of the issue of corporate performance and its very general conclusion. According to Jankelova, Joniakova and Misun (2021), the concept of corporate performance can be identified at the most general level with the definition of the overall nature of the enterprise's existence and its success in the future. Tasaryova and Paksiova (2021) understand performance as a characteristic that describes how an enterprise carries out a certain activity. According to Zavadsky, Korenkova, Zavadska, Kadarova and Tucek (2019, pp. 29–41), business performance is an abstract concept that can be quantified by calculating selected indicators. The theory of performance is mentioned in different contexts, as evidenced by the definitions presented above. Ma, Hsieh, Li and Chiu (2021) point out, however, that business performance is mostly related to the ability of a business entity to

make the best use of the investments made in its business activities. This definition of corporate performance leads to the erroneous view that only those enterprises that report a profit as a result of their economic activity can be considered efficient. This definition does not take into account the significant fact that the enterprise's performance is evaluated from several perspectives, which also fundamentally determine the applied performance evaluation criteria. However, assessing an enterprise's performance is essential, but due to its complexity, a challenging process that is based on values obtained from financial accounting (Akgun, Karatas, 2021, pp. 545–567; Hlawiczka, Blazek, Santoro, Zanellato, 2021, pp. 27–37).

In the past, many authors have studied the impact of various factors on corporate performance (Pham, Nguyen, 2020, pp. 141–151). Pereira, Braga, Correia and Salamzadeh (2021, pp. 424–444) emphasized in their study that age, the value of total assets, and the enterprise's indebtedness significantly affect corporate performance. According to Xu, Sun and Shang (2021, pp. 445–463), the financial performance of an undertaking is measured mainly by the ratio of total debt, short-term debt, and long-term debt. The authors used the panel regression estimation technique, and their results show that the ratio of total debt and the ratio of short-term debt have a negative impact on the financial performance of an enterprise. For instance, Bui, Nguyen and Ngo (2021, pp. 229–239), Nemteanu, Dinu and Dabija (2021, pp. 65–82), Sener, Akben-Selcuk and Didin-Sonmez (2021, pp. 866–871), Stryckova (2017, pp. 98–110) and Akhtar, Yusheng, Haris, Ain and Javaid (2021) state that when the debt ratio is too high, corporate performance begins to gradually decline. Despite many studies on the impact of debt financing on corporate performance, the results are contradictory.

Indebtedness can currently be considered as one of the most important economic problems for business entities (Lajtkepova, 2016, pp. 551–563) and is an economic term that suggests using external financial sources to finance an enterprise's assets (Furlong, 2021). Selection of a suitable capital structure, e.g., choosing between equity financing, debt financing, or a combination of them, is one of the most difficult decision-making processes because it indirectly affects an enterprise's indebtedness (Grundy, Verwijmeren, 2020).

The concept of indebtedness can be encountered primarily in the context of indebtedness indicators. In general, indebtedness indicators provide information about an enterprise's indebtedness and its ability to bear it (Chudik, Mohaddes, Pesaran, Raissi, 2017, pp. 135–150). Debt ratios are used during a financial analysis, and compare debt or equity with assets to assess the exact value of an enterprise's equity. The structure of financial sources can be monitored using these indicators because the correct share of equity and debt financing affects the overall financial stability of an enterprise (Valaskova, Kliestik, Gajdosikova, 2021, pp. 639–659).

An enterprise with higher equity can be considered stable, independent, and thus creates a precondition for greater financial independence. On the contrary, if an enterprise has lower equity, it is unstable, and market fluctuations can have serious negative consequences (Cam, Ozer, 2021). Equity is more expensive for an enterprise because the owners expect a higher appreciation that is paid in dividends. It is mainly related to the risks they take. Even though debt financing is less expensive, a high proportion of it may jeopardize a business entity's overall existence in the market (Valaskova *et al*., 2018).

Corporate indebtedness is affected by various determinants that affect the composition of corporate capital in different ways (Xavier, Reboucas, Regis, de Freitas Rego, 2020, pp. 114–133), e.g. prioritizing the financing of business activities, especially through debt financing. One of the most important determinants influencing an enterprise's debt is its size. In general, small enterprises have limited access in obtaining a bank loan. Cao, Zhang and Ma (2019, pp. 119384–119392) state that small enterprises obtain debt at significantly higher costs compared to large ones. Wasiuzzaman and Nurdin (2019, pp. 258–277) state that the legal form of an enterprise plays an important role in deciding whether to finance its activities through debt, and it is thus possible to consider it as another important determinant of indebtedness. The possibility of corporate growth (Lee, 2019, pp. 113–131), the quality of the enterprise itself (Wang, Kwok, 2020), the change in the environment (Moradi, Rafiei, 2019), managerial ownership quantified as a percentage of owner-owned shares at the end of the financial year also have a significant impact on corporate indebtedness (Cline, Fu, Tang, 2020).

Although the issue of corporate debt analysis has been a crucial topic of research since the last century, there are still many kinds of research that focus on assessing the financial health of enterprises. The more indebted an enterprise is, the higher the risk of bankruptcy associated with its business activities. According to Podhorska, Vrbka, Lazaroiu and Kovacova (2020, pp. 276–292), indebtedness can be considered a typical financial risk because an enterprise can be associated with possible insolvency. Bankruptcy prediction is in a period of increasing internationalization and globalization important not only for enterprises but for other interested groups (Kovacova et al., 2018, pp. 167–179). Hundreds of prediction models differ in the approaches needed to construct them, the complexity of the input data, the number of variables, and the form of interpretation of the results. There is the existence of many models because there is no universal use in different industries and economic conditions (Zvarikova, Spuchlakova, Sopkova, 2017, pp. 145–157).

2. Methods

The main aim of this paper is to perform a debt analysis of Slovak enterprises operating in manufacturing (SK NACE 20 – Manufacture of chemicals and chemical products, SK NACE 21 – Manufacture of basic pharmaceutical products and pharmaceutical preparations, SK NACE 28 – Manufacture of machinery and equipment n. e. c., and SK NACE 29 – Manufacture of motor vehicles, trailers and semi-trailers) and the construction sector (SK NACE 41 – Construction of buildings, SK NACE 42 – Civil engineering, and SK NACE 43 – Specialised construction activities) using appropriate quantitative methods. Novakova (2020) or Kliestik, Nica, Musa, Poliak and Mihai (2020) state that manufacturing in Slovakia measures the production of enterprises included in the industrial sector of the economy. Production is one of the most important industries in Slovakia and accounts for about 85% of the total production. Another important sector is also the construction sector, which is one of the most important not only in the Slovak Republic (Belas, Gavurova, Kubalek, Kubak, 2020, pp. 1072–1092) but also worldwide (Shaikh, Osei-Kyei, Hardie, 2021, pp. 547–580). Both of these key sectors have been significantly affected in recent years by the coronavirus pandemic (Svabova, Gabrikova, 2021, pp. 511–526), which has had a serious impact on individual enterprises operating in the market (Araya, 2021; Svabova, Tesarova, Durica, Strakova, 2021, pp. 261–284).

The basis for the calculation of the debt analysis was the individual financial data from the ORBIS database, which provides information on 400 million global private and public enterprises. The search results for enterprises operating in selected sectors in Slovakia were 4,369 companies. Before calculating the most important indebtedness indicators, it was necessary to modify the obtained database of financial data. Enterprises that did not provide all the financial data needed for the debt analysis in the monitored period of 2018–2020 were removed from the created database. All outliers that would reduce the significance of the results obtained from the debt analysis were also removed. After this adjustment, the database contains 846 enterprises (64 large, 222 medium-sized, and 560 small enterprises).

For the calculation of individual financial indicators, financial data (given in thousands of euros) was needed from the final database of enterprises, whose basic descriptive statistics, especially average (avg.), standard deviation (std. dev.), and coefficient of variation (CV), are listed in the following table (Table 1).

Table 1. Descriptive statistics of individual financial indicators

	avg.	std. dev.	CV
DEBT	114.253	99.951	0.875
OCAS	115.584	98.303	0.850
TOAS	418.619	166.937	0.399
SHFD	143.041	120.477	0.842
NCLI	31.907	38.206	1.197
CULI	243.671	153.655	0.631
INTE	3.386	2.938	0.868
EBIT	27.243	41.706	1.531

Note: DEBT Debtors, OCAS Other current assets, TOAS Total assets, SHFD Shareholders funds, NCLI Non-current liabilities, CULI Current liabilities, INTE Interest paid, EBIT Earnings before interest and taxes.

Values are given in thousands of euros.

Source: own calculations

The debt analysis of enterprises in selected sectors was carried out using six selected indebtedness indicators, the formulas of which are given in Table 2.

Table 2. Summarized formulas of indebtedness indicators

	Formula
Total indebtedness ratio	Non-current liabilities and current liabilities to total assets
Self-financing ratio	Shareholders funds to total assets
Short-term debt ratio	Current liabilities to total assets
Long-term debt ratio	Non-current liabilities to total assets
Equity leverage ratio	Total assets to shareholders funds
Insolvency ratio	Non-current and current liabilities to receivables

Source: Valaskova et al. (2021).

The analysis itself was carried out in the following methodological steps:

1. Firstly, the crucial indebtedness indicators were calculated using adequate formulas for each enterprise operating in the specified sectors for a monitored period of three years.
2. Next, the normality tests (Kolmogorov-Smirnov and Shapiro-Wilk tests) were used to determine if a dataset is well-modelled by a normal distribution. The p-value is interpreted against a significance level of 5% and finds that the test dataset does significantly deviate from a normal distribution.

3. The Kruskal-Wallis test, a non-parametric method for testing whether samples originate from the same distribution, was used to indicate that at least one sample stochastically dominates the other sample.

The following hypothesis was tested at a 5% significance level to perform a detailed indebtedness analysis.

H0: There are no statistically significant differences in the medians of individual indebtedness ratios concerning the size of the enterprise, i.e. the medians of indebtedness indicators are equal.

H1: The medians of individual indebtedness indicators are not equal, i.e. there are statistically significant differences in the medians of individual indebtedness ratios.

The test does not identify where this stochastic dominance occurs, so the Bonferroni correction was used to counteract the multiple comparison problem.

3. Results

The evaluation of corporate indebtedness can generally be based on various indicators but the following indicators have been selected to meet the objective of this paper: total indebtedness ratio, self-financing coefficient, short-term debt ratio, long-term debt ratio, equity leverage ratio, and insolvency ratio. The average value of these indicators in the monitored time horizon of 3 years is shown below in Table 3.

Table 3. 3-year average values of indebtedness indicators

	Large enterprises	SMEs
TI	0.210	0.696
SF	0.790	0.304
STD	0.175	0.612
LTD	0.035	0.085
EL	1.328	8.543
Ins	0.439	3.031

Note: SMEs Small and medium-sized enterprises, TI Total indebtedness ratio, SF Self-financing ratio, STD Short-term debt ratio, LTD Long-term debt ratio, EL Equity leverage, Ins Insolvency ratio.

Source: own calculations.

The ratios that indicate the degree of coverage of the enterprise's needs by equity and debt are the total indebtedness ratio and the self-financing coefficient. The *total indebtedness*

ratio is calculated by the ratio of liabilities to the total assets of the enterprise. In the large monitored enterprises, the indicator reached an average of 0.210 over a 3-year horizon, which means that 0.210 euros of total liabilities account for 1 euro of total assets. For small and medium-sized enterprises, the indicator was on average significantly higher. The *self-financing coefficient* is a complementary indicator to the total indebtedness ratio, which is given by the ratio of equity to total assets. The self-financing coefficient reached a significantly higher value for large enterprises, while small and medium-sized enterprises achieved approximately 30%. In large enterprises, 1 euro of total assets is covered by 0.790 euros of shareholder funds, while in small and medium-sized enterprises, 0.304 euros of shareholder funds account for 1 euro of total assets. If the enterprise is financed mainly by debt, it is necessary to pay more attention to the structure of external resources in the analysis of sub-indicators of the financial structure, which are the long-term debt ratio and the short-term debt ratio. The ratio of long-term liabilities to the enterprise's total assets is called the *long-term debt ratio*. In large enterprises, the indicator reached an average value of 0.035, and it can be interpreted that 1.035 euros of long-term liabilities account for 1 euro of the total assets of enterprises operating in the two monitored sectors. The monitored indicator reached very similar values for small and medium-sized enterprises as well. The *short-term debt ratio* expresses the share of an enterprise's short-term liabilities to its total assets. Significant differences in the size of the enterprise can be monitored for this indicator. Large enterprises use 17.5% of short-term debt to finance their business activities, while small and medium-sized enterprises are financed through short-term debt at 61.2%. The *equity leverage ratio* is important because enterprises use a combination of equity and debt to finance their activities. Over a period of three years, significant differences could be monitored when monitoring this indicator. The indicator reached 1.328 for large enterprises, while 8.543 accounted for small and medium-sized enterprises. The last indicator of indebtedness is the *insolvency ratio*, which is given by the ratio of liabilities to receivables. There are also significant differences in the size of enterprises when monitoring the given indicator. The insolvency ratio of large enterprises reached a value of 0.439, while the indicator reached 3.031 for small and medium-sized enterprises.

A more detailed analysis of the indebtedness of enterprises operating in the two key sectors was focused on examining the existence of statistically significant differences between individual indebtedness ratios concerning the size of the enterprise. The analysis aimed to find out whether the average values of debt indicators are the same in all sizes of enterprises (large, medium, and small) or whether they differ significantly from each other.

First, the normality of the dataset was verified using the Kolmogorov-Smirnov and Shapiro-Wilk tests, the results of which rejected the null hypothesis that the data is symmetrically distributed with no skew. Subsequently, the non-parametric Kruskal-Wallis test was used to determine the statistically significant difference between the debt ratios concerning the size of the enterprise, which does not assume a normal distribution of basic data and is also more stable against outliers compared to the analogous one-way analysis of variance. The output of the test is summarized below in Table 4. The null hypothesis that the level of individual debt ratios affects the size of enterprises was rejected because the p-value of the test compared to the significance level is less than the chosen level of significance. The size of enterprises indeed has a significant impact on these individual debt ratios.

Table 4. The output of the Kruskal-Wallis test

	TI	SF	STD	LTD	EL	Ins
Kruskal-Wallis H	163.562	162.562	151.614	20.114	132.885	127.146
Df	2	2	2	2	2	2
Asymp. Sig.	0.000	0.000	0.000	0.000	0.000	0.000

Grouping Variable: size.

Source: own calculations.

Because there is a certain dependence between the variables, a post hoc analysis using Bonferroni correction was performed in the next step using which it was possible to find out between which sizes of enterprises the differences in individual indicators are the most significant. Bonferroni correction is a multiple comparison correction used in cases where several dependent or independent statistical tests are performed simultaneously. In general, the Bonferroni test is probably the most widely used post hoc test due to its high flexibility, simple calculation, and applicability to any statistical test, not only because of using post hoc tests associated with the analysis of variance.

The pairwise comparison outputs are summarized in Table 5.

It is evident that the size of an enterprise plays a significant role, when taking the indebtedness ratios into account. The research of the manufacturing and construction sectors reveals statistically significant differences between large and small, large and medium-sized enterprises in conditions of total indebtedness ratio, self-financing ratio, short-term debt ratio, long-term debt ratio, and insolvency ratio. Thus, these results confirm the advantageous role of large enterprises, which are less risky (in term of the risk of default), with clearer evidence

of financial statements and the easier process of assessing finance (Yoshino, Taghizadeh-Hesary, 2016).

Table 5. The output of the pairwise comparison of the size of the enterprise

	Test statistics	Std. error	Std. test statistics	Sig.	Adj. Sig.
TI					
Large-Small	–403.974	32.244	–12.529	0.000	0.000
Large-Medium sized	–411.568	34.670	–11.871	0.000	0.000
Small-Medium sized	7.594	19.381	0.392	0.695	1.000
SF					
Medium sized-Small	–7.594	19.381	–0.392	0.695	1.000
Medium sized-Large	411.568	34.670	11.871	0.000	0.000
Small-Large	403.974	32.244	12.529	0.000	0.000
STD					
Large-Small	–382.898	32.244	–11.875	0.000	0.000
Large-Medium sized	–405.784	34.670	–11.704	0.000	0.000
Small-Medium sized	22.886	19.381	1.181	0.238	0.713
LTD					
Large-Medium sized	–138.828	34.666	–4.005	0.000	0.000
Large-Small	–143.612	32.240	–4.454	0.000	0.000
Medium sized-Small	–4.784	19.378	–0.247	0.805	1.000
EL					
Large-Small	–344.418	32.244	10.682	0.000	0.000
Large-Medium sized	–391.862	34.670	–11.303	0.000	0.000
Small-Medium sized	47.444	19.381	2.448	0.014	0.043
Ins					
Large-Medium sized	–319.550	34.670	–9.217	0.000	0.000
Large-Small	–363.406	32.244	–11.271	0.000	0.000
Medium sized-Small	–43.856	19.381	–2.263	0.024	0.071

Source: own calculations.

4. Discussion

Advanced enterprises operating in the market use debt not only to finance their regular capital expenditures but also to finance new projects. Overall, most enterprises need external sources of capital, and debt is one of the most important of these sources.

Virglerova, Homolka, Smrcka, Lazanyi and Kliestik (2017, pp. 87–101) state that, from an internal point of view, it is crucial to monitor the total indebtedness indicator for each enterprise, and this indicator includes its total debt in the calculation. These authors state that the increase in the value of a given indicator is associated with the risk of an enterprise's inability to repay these debts. The higher the value of the total indebtedness indicator, the higher an enterprise's indebtedness. Many authors have calculated the value of the given indicator in terms of companies operating in the Slovak and Czech markets in their studies, such as Kucera, Vochozka and Rowland (2021), Schonfeld (2020, pp. 1111–1127), and many others. Valaskova Kliestik and Gajdosikova (2021, pp. 639–659) state that total indebtedness varies considerably from one sector to another. Optimal indebtedness is generally defined as one that minimizes the capital costs of an enterprise, thus maximizing the value of the enterprise. The ratio is set in developed economies in the range of 70–80%, in other economies in the range of 30–60% (Kravcakova Vozarova, Kotulic, Vavrek, 2019, pp. 5999–6008). The total indebtedness ratio, the value of which is higher than 1, proves that a significant part of an enterprise's assets are financed by debt. In this case, an enterprise has more liabilities than assets. The high value of the indicator also suggests that an enterprise may be exposed to the potential risk of default if market interest rates rise sharply. In the monitored small and medium-sized enterprises, the indicator reached an average value of 0.696, and it can be said that the indebtedness of enterprises is optimal. The total indebtedness ratio and the self-financing coefficient are mutually complementary indicators, the sum of which is 1, e.g. 100%. The following can be said: if the total indebtedness of an enterprise decreases, the self-financing coefficient will increase and vice versa. Mazanec and Bartosova (2021) state that the value of the given indicator should not fall below the level of 20–30%. In the construction and manufacturing sectors, the value of the coefficient has been calculated in accordance with the optimal value set by these authors is met. In the case of a debt-financed enterprise, a more detailed examination of the structure of external resources is needed through the short-term debt ratio (Shikumo, Oluoch, Wepukhulu, 2020) and long-term debt ratio (Ratajczak, Mikolajewicz, 2021, pp. 74–96). Many authors have dealt with their calculations and research. Short-term debt is a financial liability that is expected to be repaid within one year, and its value is very important in determining an enterprise's performance. The higher the ratio of short-term debt to total assets, the more an enterprise's liquidity is at risk (Michalkova, Stehel, Nica, Durana, 2021, pp. 276–295). The long-term debt ratio is mainly related to debt that is due in more than one year. Individual business entities operating in the market prefer to finance their activities through long-term debt, mainly due to the period of its repayment and the interest to be paid for its use. This indicator provides an assessment of an

enterprise's long-term financial situation, including its ability to meet its financial obligations with a maturity of more than one year (Kristofik, Slampiakova, 2021, pp. 322–339). Based on the results of previous calculations, it can be argued that the average value of the short-term debt ratio is significantly higher in small and medium-sized enterprises compared to large ones. When monitoring the long-term debt ratio, significant differences can also be observed in terms of enterprise size. The equity leverage of an enterprise greatly affects the enterprise's performance and is also positively and significantly affected by the equity leverage ratio, the monitoring of which is essential for every business entity (Migliaccio, Ciotta, 2019, pp. 789–805). However, an enterprise needs to know the correct amount of debt and have the ability to repay it within a predetermined time horizon. An enterprise increases the value of this indicator if it increases the ratio of external resources. A value of 4 is considered optimal when the enterprise's activity is financed with debt of 75% (Stefko, Vasanicova, Jencova, Pachura, 2021, pp. 12–15). The financial leverage of large enterprises reached an average value of 1.328 and is largely influenced by the higher share of the equity of the monitored enterprises. This statement can be supported by the result of the calculation of the self-financing coefficient, too. In the case of small and medium-sized enterprises, the average value is calculated at the level of 8,543, which is significantly above the optimal value. It is due, on the contrary, to the lower share of the equity of most of the monitored enterprises. It is essential for an enterprise to simultaneously monitor the insolvency ratio, which characterizes its overall financial stability (Karzaeva, Karzaeva, 2019). If the indicator's value is greater than 1, the enterprise's liabilities are greater than its receivables, and in this case, it is primary insolvency. Conversely, if its value is less than 1, it is secondary insolvency, where the enterprise's receivables are greater than its liabilities (Kljucnikov, Sobekova-Majkova, Vincurova, Sarvutyte-Gailiuniene, Kiausiene, 2018, pp. 210–224). Again, significant differences according to the size of enterprises can be observed. Large enterprises achieve an average insolvency ratio of 0.439, which means that the value of such enterprises' claims is significantly higher than the value of their liabilities. In the case of small and medium-sized enterprises, the exact opposite is true. In the monitored enterprises, liabilities were significantly higher than receivables in the observed period.

Many authors argue in their studies that one of the most important determinants that significantly affect an enterprise's debt is its size. The impact of the enterprise's size on the calculated indebtedness indicators is confirmed by the results of ANOVA, based on which it can be argued that statistically significant differences between the calculated indebtedness indicators actually exist. The size of the enterprise affects each of the six debt ratios, with the most significant differences between large and small enterprises, as well as an inequality of averages

between large and medium-sized enterprises. As a result, the average values of the debt ratios of small and medium-sized enterprises are the same. An exception is the leverage ratio, which also shows significant differences in the case of small and medium-sized enterprises. Small and medium-sized enterprises usually have a lower share of debt compared to large enterprises and this is reflected in their lower indebtedness (Czemiel-Grzybowska, Skowronek-Mielczarek, 2017, pp. 504–519). The lower share of debt financing is also associated with the pursuit of higher liquidity in times of financial difficulties. The larger an enterprise is, the more inclined it is to finance its activities with external financial sources. According to Maggiori, Neiman and Schreger (2020, pp. 2019–2066), the higher indebtedness of large enterprises is mainly due to better debt diversification and the associated lower risk of corporate bankruptcy. In addition, large enterprises tend to have a better reputation in debt markets and therefore have lower debt costs.

Although large enterprises are more indebted, banking institutions consider them less risky, and therefore their access to credit is better. Large enterprises producing sufficiently large profits have a higher credit rating, and therefore, banking institutions do not anticipate sudden financial difficulties caused by insolvency (Nylund et al., 2020, pp. 200–213). During a financial crisis, banks have limited resources to provide new loans and therefore tend to prefer larger enterprises with a known reputation and less risk (Obeidat, 2021, pp. 789–796). Many authors (Jermias, Yigit, 2019, pp. 171–185; Kamil, Appiah, 2021) state that there is a positive relationship between the size of the enterprise itself and the level of its debt in the form of long-term liabilities. The larger the enterprise, the greater its tendency to finance its business activities using external sources of financing. On the contrary, Duarte, Galindo and Montecinos (2021) state that there is a negative relationship between short-term liabilities and the size of an enterprise. In this case, the larger the enterprise, the lower the share of its short-term liabilities in total assets. Similar research has been conducted by authors in other Visegrad Group countries, which are similar to their comparable historical development, changes in political, cultural, economic, and social life, as well as the transition to a market economy (Nemethova, Svobodova, Krejci, Veznik, 2020, pp. 7–21). Individual countries have undergone a similar transformation of their economic systems, and the development of their national economies is based on similar roots. In the conditions of the Czech Republic, Dvoulety and Blazkova (2021, pp. 1526–1547) dealt with this issue. They pointed out the interconnectedness of the size of an enterprise and its indebtedness. The main aim of their study was to identify the factors affecting the indebtedness and productivity of enterprises in the Czech Republic with a primary focus on firm size, firm age, long-term negative equity, legal form, and sectoral affiliation of the

company itself. According to Kajurova and Linnertova (2018, pp. 371–385), Syrova and Spicka (2022), it is true that large companies are more likely to finance their activities with external sources of funding. In the context of Poland, many authors have conducted research focusing on the existence of dependence between corporate indebtedness and size. Vintila, Gherghina, and Paunescu (2018, pp. 571–590), Mirota and Nehrebecka (2018, pp. 75–102) found that the size of the enterprise is strongly positively related to the capital structure. The results of their study show that small and medium-sized enterprises usually have a lower debt ratio compared to large enterprises, which is associated with corporate indebtedness. Koral-Bereznicka and Ciolek (2018, pp. 93–107) also recorded the factors that influence the debt financing of enterprises in Poland. The main question of their study was whether the use of debt financing depends on the industry and the size of an enterprise. They found a positive relationship between the variables examined, and thus the leverage effect is influenced not only by firm size but also by its industry classification. The results showed that firm size had a greater impact on an enterprise's indebtedness. In Hungary, Fenyves, Peto, Szenderak and Harangi-Rakos (2020, pp. 160–167) dealt with the search for a statistically significant relationship between the size and indebtedness of an enterprise. In the results, the authors summarized the fact that the overall connection may depend mainly on the type of debt. By dividing the debt into short-term and long-term debt, there is a positive relationship between firm size and the short-term debt while the authors pointed out a negative relationship between the size of an enterprise and the long-term debt.

Conclusions

Indebtedness is generally associated with the fact that an enterprise uses external resources, i.e., debt, to finance its activities. One of the crucial tasks of financial management is deciding on capital needs and choosing the appropriate form of financing for an enterprise's development activities. Over time, several studies have been conducted on the preference of debt financing for the financing of corporate activities, but the conclusions of these studies have been often contradictory. The main reason for this is the relatively lower price of foreign resources compared to own ones. However, the high level of indebtedness of an enterprise threatens not only its financial stability but affects the performance of the enterprise itself.

This paper used an analysis of variance to examine the impact of the size of enterprises operating in two key sectors in Slovakia on the level of their debt during the period 2018–2020. The empirical results showed that statistically significant differences between the calculated indebtedness indicators exist between large and small enterprises, as well as between large

and medium-sized enterprises. As a result, the average values of the debt ratios of small and medium-sized enterprises are the same. Many authors argue in their studies that one of the most important determinants that significantly affect an enterprise's debt is its size, and this paper confirmed the claims of individual authors, too.

Despite the contribution of this paper to the extant literature, the following limitation needs to be highlighted. The scope of the paper (i.e., the focus only on two sectors of the national economy of Slovakia) limits the extent of generalization of the findings. Future research should examine this phenomenon in all sectors of the national economy in Slovakia, or in a longer time period than set for this research, to determine whether there will be differences in the findings and allow for greater generalization and applicability.

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References

Akgun, A.I., Karataş, A.M. (2020). Investigating the relationship between working capital management and business performance: Evidence from the 2008 financial crisis of EU-28. *International Journal of Managerial Finance*, *17* (4), 545–567. DOI: 10.1108/IJMF-08-2019-0294.

Akhtar, M., Yusheng, K., Haris, M., Ain, Q.U., Javaid, H.M. (2021). Impact of financial leverage on sustainable growth, market performance, and profitability. *Economic Change and Restructuring*. DOI: 10.1007/s10644-021-09321-z.

Araya, F. (2021). Modeling the spread of COVID-19 on construction workers: An agent-based approach. *Safety Science*, *133*. DOI: 10.1016/j.ssci.2020.105022.

Belas, J., Gavurova, B., Kubalek, J., Kubak, M. (2020). Discrepancies in perception and evaluation of macroenvironment–sectoral analysis. *Journal of Business Economics and Management*, *21* (4), 1072–1092. DOI: 10.3846/jbem.2020.12274.

Bui, D.T., Nguyen, H.H., Ngo, V.M. (2021). Financial leverage and performance of SMEs in Vietnam: evidence from the post-crisis period. *Economics and Business Letters*, *10* (3) 229–239. DOI: 10.17811/ebl.10.3.2021.229-239.

Cam, I., Ozer, G. (2021). Institutional quality and corporate financing decisions around the world. *North American Journal of Economics and Finance*, *57*. DOI: 10.1016/j.najef.2021.101401.

Cao, Y., Zhang, J.H., Ma, X.Y. (2019). Optimal financing and production decisions for a supply chain with buyer-backed purchase order financing contract. *IEEE Access*, *7*, 119384–119392.

Chudik, A., Mohaddes, K., Pesaran, M.H., Raissi, M. (2017). Is there a debt-threshold effect on output growth? *Review of Economics and Statistics*, *99* (1), 135–150. DOI: 10.1162/REST_a_00593.

Cline, B.N., Fu, X., Tang, T. (2020). Shareholder investment horizons and bank debt financing. *Journal of Banking & Finance*, *110*. DOI: 10.1016/j.jbankfin.2019.105656.

Czemiel-Grzybowska, W., Skowronek-Mielczarek, A. (2017). Entrepreneurship research in the Poland. *Technological and Economic Development of Economy*, *23* (3), 504–519. DOI: 10.3846/20294913.2015.1070770.

Duarte, D., Galindo, H., Montecinos, A. (2021). Leverage and capital utilization. *European Journal of Finance*. DOI: 10.1080/1351847X.2021.1924215.

Dvoulety, O., Blazkova, I. (2021). Exploring firm-level and sectoral variation in total factor productivity (TFP). *International Journal of Entrepreneurial Behavior & Research*, *27* (6). 1526–1547. DOI: 10.1108/IJEBR-11-2020-0744.

Fenyves, V., Peto, K., Szenderak, J., Harangi-Rakos, M. (2020). The capital structure of agricultural enterprises in the Visegrad countries. *Agricultural Economics*, *66* (4), 160–167. DOI: 10.17221/285/2019-AGRICECON.

Furlong, K.M. (2021). Full-cost recovery = debt recovery: How infrastructure financing models lead to overcapacity, debt, and disconnection. *Wiley Interdisciplinary Reviews-Water*, *8* (2). DOI: 10.1002/wat2.1503.

Grofcikova, J. (2020). Impact of selected determinants of corporate governance on financial performance of companies. *Ekonomicko-manazerske spektrum*, *14* (2), 12–23.

Grundy, B.D., Verwijmeren, P. (2020). The external financing of investment. *Journal of Corporate Finance*, *65*. DOI: 10.1016/j.jcorpfin.2020.101745.

Hlawiczka, R., Blazek, R., Santoro, G., Zanellato, G. (2021). Comparison of the terms creative accounting, earnings management and fraudulent accounting through bibliographic analysis. *Ekonomicko-manazerske spektrum*, *15* (2), 27–37.

Jankelova, N., Joniakova, Z., Misun, J. (2021). Innovative Work Behavior-A Key Factor in Business Performance? The Role of Team Cognitive Diversity and Teamwork Climate

in This Relationship. *Journal of Risk and Financial Management*, *14* (4). DOI: 10.3390/jrfm14040185.

Jermias, J., Yigit, F. (2019). Factors affecting leverage during a financial crisis: Evidence from Turkey. *Borsa Istanbul Review*, *19* (2), 171–185. DOI: 10.1016/j.bir.2018.07.002.

Kajurova, V., Linnertova, D. (2018). Loose Monetary Policy and Corporate Investment of Manufacturing Firms in the Czech Republic. *Review of Economic Perspectives*, *18* (4), 371-385. DOI: 10.2478/revecp-2018-0019.

Kamil, R., Appiah, K.O. (2021). Board Gender Diversity and Cost of Debt: Does Firm Size and Industry type matter? *Gender in Management*. DOI: 10.1108/GM-12-2020-0363.

Karpavicius, S., Yu, F. (2019). Managerial risk incentives and a firm's financing policy. *Journal of Banking & Finance*, *100*, 167-181. DOI: 10.1016/j.jbankfin.2019.01.013

Karzaeva, N.N., Karzaeva, E.A. (2019). Methods for assessing solvency in the financial diagnostics system of an economic entity. *International Transaction Journal of Engineering, Management, and Applied Sciences and Technologies*, *10* (19). DOI: 10.14456/ITJEMAST.2019.267.

Kiselakova, D., Stec, M., Grzebyk, M., Sofrankova, B. (2020). A Multidimensional Evaluation of the Sustainable Development of European Union Countries – An Empirical Study. *Journal of Competitiveness*, *12* (4), 56–73.

Kliestik, T., Nica, E., Musa, H., Poliak, M., Mihai, E.A. (2020). Networked, Smart, and Responsive Devices in Industry 4.0 Manufacturing Systems, *Economics, Management, and Financial Markets*, *15* (3), 23–29.

Kljucnikov, A., Sobekova-Majkova, M., Vincurova, Z., Sarvutyte-Gailiuniene, M., Kiausiene, I. (2018). The Insolvency of SMEs Within the Perspective of the Central European Region. *Transformations in Business & Economics*, *17* (2), 210–224.

Koralun-Bereznicka, J., Ciolek, D. (2018). Industry and size effect in profitability-capital structure relation: empirical evidence from Poland. *Romanian Journal of Economic Forecasting*, *21* (1), 93–107.

Kovacova, M., Kliestik, T., Kubala, P., Valaskova, K., Radisic, M., Borocki, J. (2018). Bankruptcy models: Verifying their validity as a predictor of corporate failure. *Polish Journal of Management Studies*, *18* (1), 167–179. DOI: 10.17512/pjms.2018.18.1.13.

Kravcakova Vozarova, I., Kotulic, R., Vavrek, R. (2019). Disparities in the financial performance of agricultural entities according to the legal form: the case of Slovakia. *Applied Economics*, *51* (56), 5999–6008. DOI: 10.1080/00036846.2019.1645285.

Kristofik, P., Slampiakova, L. (2021). Differences in Capital Structure of Publicly Traded Companies in Europe and USA. *Politicka ekonomie*, *69* (3), 322–339. DOI: 10.18267/j.polek.1320.

Kucera, J., Vochozka, M., Rowland, Z. (2021). The Ideal Debt Ratio of an Agricultural Enterprise. *Sustainability*, *13* (9). DOI: 10.3390/su13094613.

Lajtkepova, E. (2016). Differences and similarities in the indebtedness of EU member states after last financial crisis. *Oeconomia Copernicana*, *7* (4), 551–563.

Lazaroiu, G., Kliestik, T., Novak, A. (2021). Internet of Things Smart Devices, Industrial Artificial Intelligence, and Real-Time Sensor Networks in Sustainable Cyber-Physical Production Systems. *Journal of Self-Governance and Management Economics*, *9* (1), 20–30.

Lee, K.W. (2019). The usage of derivatives in corporate financial risk management and firm performance. *International Journal of Business*, *24* (2), 113–131.

Ma, J., Xu, H. (2020). Empirical analysis and optimization of capital structure adjustment. *Journal of Industrial & Management Optimization*, *16* (3), 1037–1047. DOI: 10.3934/jimo.2018191.

Ma, L.H., Hsieh, J.C., Li, Y., Chiu, Y.H. (2021). Evaluating Efficiency Change in Taiwan's Financial Industry. *SAGE Open*, *11* (2). DOI: 10.1177/21582440211005448.

Maggiori, M., Neiman, B., Schreger, J. (2020). International currencies and capital allocation. *Journal of Political Economy*, *128* (6), 2019–2066. DOI: 10.1086/705688.

Mazanec, J., Bartosova, V. (2021). Prediction Model as Sustainability Tool for Assessing Financial Status of Non-Profit Organizations in the Slovak Republic. *Sustainability*, *13* (17). DOI: 10.3390/su13179721.

Michalkova, L., Stehel, V., Nica, E., Durana, P. (2021). Corporate Management: Capital Structure and Tax Shields. *Marketing and Management of Innovations*, *3*, 276–295. DOI: 10.21272/mmi.2021.3-23.

Migliaccio, G., Ciotta, C. (2019). Asset balance of Italian fuel distribution companies during and after the crisis. *Business Management Theories and Practices in a Dynamic Competitive Environment*, 789–805.

Mirota, F., Nehrebecka, N. (2018). Determinants of Cash Holdings in Listed Companies in Poland. *Gospodarka Narodowa*, *3*, 75–102.

Moradi, S., Rafiei, F.M. (2019). A dynamic credit risk assessment model with data mining techniques: evidence from Iranian banks. *Financial Innovation*, *5* (1). DOI: 10.1186/s40854-019-0121-9.

Narayan, P.K., Phan, D.H.B., Liu, G., Ibrahim, M. (2021). Ethical investing and capital structure. *Emerging Markets Review*, *47*. DOI: 10.1016/j.ememar.2020.100774.

Nemethova, J., Svobodova, H., Krejci, O., Veznik, A. (2020). Development of Crop Production in the Slovakia and Czechia after the Year 2004 in Comparison with V4 Countries. Bulletin of Geography. *Socio-Economic Series*, *50* (50), 7–22. DOI: 10.2478/bog-2020-0028.

Nemteanu, M.-S., Dinu, V., Dabija, D.C. (2021). Job Insecurity, Job Instability, and Job Satisfaction in the Context of the COVID-19 Pandemic. *Journal of Competitiveness*, *13* (2), 65–82. DOI: 10.7441/ joc.2021.02.04.

Novakova, L. (2020). The impact of technology development on the future of the labour market in the Slovak Republic. *Technology in Society*, 62. DOI: 10.1016/j.techsoc.2020.101256.

Nylund, P.A., Arimany-Serrat, N., Ferras-Hernandez, X., Viardot, E., Boateng, H., Brem, A. (2019). Internal and external financing of innovation: Sectoral differences in a longitudinal study of European firms. *European Journal of Innovation Management*, *23* (2), 200–213. DOI: 10.1108/EJIM-09-2018-0207.

Obeidat, M.I.S. (2021). Relationship Between Firm Size and Profitability with Income Smoothing: Evidence from Food and Beverages (F&B) Firms in Jordan. *Journal of Asian Finance, Economics and Business*, *8* (6), 789–796. DOI: 10.13106/jafeb.2021.vol8.no6.0789.

Pereira, J., Braga, V., Correia, A., Salamzadeh, A. (2021). Unboxing organisational complexity: how does it affect business performance during the COVID-19 pandemic? *Journal of Entrepreneurship and Public Policy*, *10* (3), 424–444. DOI: 10.1108/JEPP-06-2021-0070.

Pham, H.S.T., Nguyen, D.T. (2020). Debt financing and firm performance: The moderating role of board independence. *Journal of General Management*, *45* (3), 141–151. DOI: 10.1177/0306307019886829.

Podhorska, I., Vrbka, J., Lazaroiu, G., Kovacova, M. (2020). Innovations in financial management: Recursive prediction model based on decision trees. *Marketing and Management of Innovations*, *3*, 276–292. DOI: 10.21272/mmi.2020.3-20.

Ratajczak, P., Mikołajewicz, G. (2021). The impact of environmental, social and corporate governance responsibility on the cost of short-and long-term debt. *Economics and Business Review*, *7* (2), 74–96. DOI: 10.18559/ebr.2021.2.6.

Schonfeld, J. (2020). Financial situation of pre-packed insolvencies. *Journal of Business Economics and Management*, *21* (4), 1111–1127. DOI: 10.3846/jbem.2020.12820.

Sener, P., Akben-Selcuk, E., Didin-Sonmez, F. (2021). Does the institutional framework affect the relationship between debt financing and firm performance in emerging countries? *Applied Economics Letters*, *28* (10), 866–871. DOI: 10.1080/13504851.2020.1784382.

Shaikh, A.Y., Osei-Kyei, R., Hardie, M. (2020). A critical analysis of safety performance indicators in construction. *International Journal of Building Pathology and Adaptation*, *39* (3), 547–580. DOI: 10.1108/IJBPA-03-2020-0018.

Shikumo, D.H., Oluoch, O., Wepukhulu, J.M. (2020). Effect of Short-Term Debt on Financial Growth of Non-Financial Firms Listed at Nairobi Securities Exchange. *Research Journal of Finance and Accounting*, *11* (20).

Silaghi, F. (2018). The use of equity financing in debt renegotiation. *Journal of Economic Dynamics and Control*, *86*, 123–143. DOI: 10.1016/j.jedc.2017.10.010.

Stefko, R., Vasanicova, P., Jencova, S., Pachura, A. (2021). Management and Economic Sustainability of the Slovak Industrial Companies with Medium Energy Intensity. *Energies*, *14* (2). DOI: 10.3390/en14020267.

Stryckova, L. (2017). The relationship between company returns and leverage depending on the business sector: Empirical evidence from the Czech Republic. *Journal of Competitiveness*, *9* (3), 98–110. DOI: 10.7441/joc.2017.03.07.

Sumani, S., Roziq, A. (2020). Reciprocal capital structure and liquidity policy: Implementation of corporate governance toward corporate performance. *The Journal of Asian Finance, Economics and Business*, *7* (9), 85–93. DOI: 10.13106/jafeb.2020.vol7.no9.085.

Sumiati, S. (2020). Improving small business performance: The role of entrepreneurial intensity and innovation. *The Journal of Asian Finance, Economics and Business*, *7* (10), 211–218. DOI: 10.13106/jafeb.2020.vol7.n10.211.

Svabova, L., Gabrikova, B. (2021). The rise in youth employment? Impact evaluation of COVID-19 consequences. *Journal of Eastern European and Central Asian Research*, *8* (4), 511–526. DOI: 10.15549/jeecar.v8i4.757.

Svabova, L., Tesarova, E.N., Durica, M., Strakova, L. (2021). Evaluation of the impacts of the COVID-19 pandemic on the development of the unemployment rate in Slovakia: counterfactual before-after comparison. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, *16* (2), 261–284. DOI: 10.24136/eq.2021.010.

Syrova, L., Spicka, J. (2022). The Impact of Foreign Capital on the Level of ERM Implementation in Czech SMEs. *Journal of Risk and Financial Management*, *15* (2). DOI: 10.3390/jrfm15020083.

Tasaryova, K., Paksiova, R. (2021). The Impact of Equity Information as an Important Factor in Assessing Business Performance. *Information*, *12* (2). DOI: 10.3390/info12020085.

Valaskova, K., Kliestik, T., Gajdosikova, D. (2021). Distinctive determinants of financial indebtedness: evidence from Slovak and Czech enterprises. *Equilibrium-Quarterly Journal of Economics and Economic Policy*, *16* (3), 639–659. DOI: 10.24136/eq.2021.023.

Valaskova, K., Kliestik, T., Kovacova, M. (2018). Management of financial risks in Slovak enterprises using regression analysis. *Oeconomia Copernicana*, *9* (1), 105–121. DOI: 10.24136/oc.2018.006.

Valaskova, K., Kliestik, T., Svabova, L., Adamko, P. (2018). Financial risk measurement and prediction modelling for sustainable development of business entities using regression analysis. *Sustainability*, *10* (7). DOI: 10.3390/su10072144.

Vintila, G., Gherghina, Ş.C., Paunescu, R.A. (2018). Study of effective corporate tax rate and its influential factors: Empirical evidence from emerging European markets. *Emerging Markets Finance and Trade*, *54* (3), 571–590. DOI: 10.1080/1540496X.2017.1418317.

Virglerova, Z., Homolka, L., Smrcka, L., Lazanyi, K., Kliestik, T. (2017). Key determinants of the quality of business environment of SMEs in the Czech Republic. *E a M Ekonomie a Management*, *20* (2), 87–101. DOI: 10.15240/tul/001/2017-2-007.

Wang, Q., Kwok, Y.K. (2019). Real Option Signaling Games of Debt Financing Using Equity Guarantee Swaps under Asymmetric Information. *International Journal of Theoretical and Applied Finance*, *23* (5). DOI: 10.1142/S0219024920500363.

Wasiuzzaman, S., Nurdin, N. (2018). Debt financing decisions of SMEs in emerging markets: empirical evidence from Malaysia. *International Journal of Bank Marketing*, *37* (1), 258–277. DOI: 10.1108/IJBM-12-2017-0263.

Xavier Jr, A.E., Reboucas, R.M.M., Regis, S.D., de Freitas Rego, T. (2020). Financial Determinants of Indebtedness of Brazilian States from 2006 to 2016. *Revista Eletronica De Estrategia E Negocios-Reen*, *13* (1), 114–133. DOI: 10.19177/reen.v13e02020134-155.

Xu, J., Sun, Z., Shang, Y. (2021). Capital structure and financial performance in China's agricultural sector: a panel data analysis. *Custos E Agronegocio On Line*, *17* (2), 445–463.

Yoshino, N., Taghizadeh-Hesary, F. (2016). *Major challenges facing small and medium-sized enterprises in Asia and solutions for mitigating them.* Japan: Asian Development Bank Institute.

Zavadsky, J., Korenkova, V., Zavadska, Z., Kadarova, J., Tucek, D. (2019). Competences in the quality management system evaluation based on the most worldwide used key performance indicators. *Quality-Access to Success*, *20* (169), 29–41.

Zvarikova, K., Spuchlakova, E., Sopkova, G. (2017). International comparison of the relevant variables in the chosen bankruptcy models used in the risk management. *Oeconomia Copernicana*, *8* (1), 145–157. DOI: 10.24136/oc.v8i1.10.

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