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SHORT-TERM FINANCING AND THE IMPACT OF TRADE CREDIT ON THE PROFITABILITY OF SMALL AND MEDIUM ENTERPRISES IN THE REPUBLIC OF CROATIA

Abstract

Purpose: The establishment of credit policy is an integral part of the entire decision-making process on the manner and structure of corporate financing. Determining the credit policy is crucial for adequate management of a company's net working capital and its financing, in order to support continuous operation and the earning capacity of the company. In this process, the company will be influenced by the market in which it operates and by many others external and internal factors. For example, companies operating in less developed financial markets will find it more difficult to obtain the necessary financing. Such companies are most dependent on short-term financing in general, and trade credit in particular. This paper analyzes primarily internal factors - trade receivables and payables. Accordingly, the main goal of this paper is to investigate the relationship between the profitability of SMEs in the Republic of Croatia and their use of trade credit.

Methodology: In order to achieve the main goal and prove the hypotheses, panel data analysis examined the impact of trade credit on the level of profitability of Croatian SMEs.

Results: The results show that delaying payments to suppliers increased the profitability of the company. Furthermore, the results show that a decrease in receivables did not increase the profitability of SMEs.

Conclusion: Croatian SMEs can increase the profitability by not delaying the payment of obligations to suppliers for too long.

Keywords: Credit policy, short-term financing, supplier trade credit, trade receivables, profitability, SMEs

1. Introduction

Current liabilities are the most important form of both financing current assets and financing small and medium enterprises. When financing a company, it is necessary to take into account the advantages and disadvantages of long-term versus short-term financing. The advantages of using current liabilities are greater flexibility and lower financing costs. The disadvantages of using current liabilities

are the increased risk of their use, which is reflected as refinancing risk and interest rate risk, i.e., the risk of changes in interest rates. When deciding on the form of financing current assets, the company takes into account the interdependence of risk and reward (Orsag, 2015).

As the research is conducted on the case of small and medium-sized Croatian companies, the use of trade credit is even more important because such entities are not expected to have access to the market of commercial banks, and factoring is also predominantly in the hands of the banks that operate on a universal level and are primarily oriented towards larger entities. Most of the existing research was conducted on large companies in developed countries. The most common reason for omitting small businesses from the analysis is the unavailability of the information needed for the analysis. Accordingly, the **main goal of this paper** is to investigate the relationship between the profitability of SMEs in the Republic of Croatia and their use of trade credit.

The subject of this paper will be trade credits and their impact on the profitability of small and medium enterprises in the Republic of Croatia. On the one hand, this paper observes the impact of trade payables, the most common instrument of short-term financing of small and medium-sized enterprises, on the level of enterprise profitability. On the other hand, it observes the impact of trade receivables, as the most important instrument in the conditions of high competition to stimulate demand and retain customers, on the level of profitability of small and medium enterprises. Although these two forms of trade credit are at the entrance and exit of the company's internal processes, it should not be expected that their impact is exclusively the quantitative balance of expected opposing influences. This research will improve the knowledge of credit policy, i.e., the impact of the use of trade credit on the level of profitability of small and medium enterprises in a small post-transition economy characterized by complexity and difficulties in financing and in the overall business.

The results of the study reveal the impact of trade payables, but no impact of trade receivables on the profitability of small and medium enterprises. The higher the value of the variable supplier payment days, the lower the profitability of small and medium enterprises. Moreover, the wholesale sector, the retail sector, and the manufacturing sector have higher profitability compared to the construction sector.

The remainder of the paper is organized as follows. The chapter **Overview of previous research** presents a brief overview of previous research by other researchers and sets out three main hypotheses. In the third chapter, **Methodology**, the sample, data, selected variables and the measures used are defined and explained. The fourth chapter, **Empirical analysis**, presents the empirical part of the research focused on testing hypotheses and achieving the main goal of the paper. The fifth chapter, **Discussion**, explains the results obtained in empirical research according to the set hypotheses. In the last part, **Conclusion**, all relevant knowledge, information, attitudes, and scientific facts are presented systematically, clearly and concisely, and the most important results of scientific research are formulated and presented (that were previously presented and elaborated in detail in the chapter Discussion).

2. Overview of previous research

The purpose of working capital has already been noted by classical economists. Adam Smith (1776) differed circulating (working) from fixed capital and defined the main group of working capital funds. Karl Marx (1867) used the term variable capital and pointed its function for maintaining liquidity of production circulation. This circulation, according to Marx, should result in surplus, bringing into discussion working capital risk-reward trade-off. Trade-off between liquidity and profitability was the major point of Walker's theory of working capital. Today, this trade-off is incorporated in the main corporate finance textbooks, mostly as operating working capital (Brealy et al., 2016; Brigham & Ehrhardt, 2011; Ross et al., 2019). Cash conversion cycle theory developed by Richards and Laghlin (1980) is the most central one in explaining working capital management with all its concepts and components (Aminu & Zainudin, 2015). The cash conversion cycle is represented as the average collection period plus the inventory conversion period minus the average payment period. The inventory conversion period refers to the internal business processes. The collection period and the payment period are externally designated. As part of working capital management, receivable and payable management affects firm profitability. Shortening the collection period or extending the payable period can increase firm profitability, but can also increase risk, and vice versa.

According to Orsag (2002), the fundamental problem of small businesses is the liquidity of operations and the maintenance of daily solvency, which is a consequence of the narrowness of funding sources and the illiquidity of the financing instrument. On the other hand, it is difficult for small businesses to predict the future of their business, making it difficult to predict expected cash flows. PwC's research (2015) found that SMEs are less able to generate money from collecting receivables from customers and need more cash than large companies. Financial hardship theory (Bhattacharya, 2014) states that customers will pay more slowly to firms in difficulty which will result in even greater financial hardship. According to transaction cost theory, the use of trade credits will reduce transaction costs which will affect an increase in profitability (Bhattacharya, 2014). The European Commission (2016) lists several unique problems faced by SMEs, and one of the problems are difficulties in accessing finance. Makori and Jagongo (2013) argue that firms delay paying obligations to suppliers until the delay strains their relationship.

Given the difficulties in accessing finance, trade payables are one of the main external sources of finance. The authors expect a positive and significant impact of deferred payments to suppliers on the level of profitability because companies will defer payment of obligations to creditors to the extent where the benefits of using a commercial loan outweigh the costs of using it. The authors expect companies to use the excess money from deferred payments to increase sales which will result in increased profitability. Slower collection of trade receivables is expected to have a significant and negative impact on a company's level of profitability as money will not be available to generate higher sales. On the one hand, money is tied to receivables, which will result in the impossibility of creating new opportunities and profits, while on the other hand, there are high costs of maintaining receivables.

Trade credit, on the one hand, can be given by the supplier, resulting in receivables from customers, while on the other hand, it can be received by the customer, which creates obligations to suppliers (Baveld, 2012). The scientific and professional literature presents different conflicting results of the relationship between trade credits and corporate profitability. The authors assume a significant and positive impact of trade payables on the level of company profitability, and a significant and negative

impact of trade receivables on the level of company profitability. But there are authors who reported the opposite findings, as well as those who did not find a significant relationship between the above variables. It is assumed that different findings are influenced by market development, limited funding sources, sectoral differences, and other factors.

Garcia-Teruel and Martinez-Solano (2007) analyzed Spanish SMEs. They found a significant and negative relationship between trade receivables and the level of profitability of the company. On the other hand, they failed to find a link between trade payables and company profitability. **Tauringana and Afrifa (2013)** analyzed British SMEs. They also found a significant and negative relationship between trade receivables and the level of company profitability, while on the other hand, they reported a negative relationship between trade payables and company profitability. **Gul et al. (2013)** analyzed Pakistani SMEs. They also confirmed a significant and negative relationship between trade receivables and the level of company profitability, while on the other hand, they reported a significant and positive relationship between trade payables and company profitability. **Gorondutse et al. (2017)** examined the effects of working capital management on a sample of 66 small and medium-sized Malaysian enterprises for the period 2006-2012. Empirical results determined the negative effect of the day of collection of receivables on ROA, which means that an increase in the day of collection of receivables will result in lower profitability of SMEs. Moreover, the study found a positive effect of the day of bill payment on ROA, which indicates that late payments to suppliers will affect an increase in profit. **Goncalves et al. (2018)** analyzed the effects of the economic cycle on the relationship between working capital management and profitability using a sample of British unlisted companies for the period between 2006 and 2014. The results show a statistically significant and negative relationship between profitability and the receivables collection day and a statistically significant and positive relationship between profitability and payment of liabilities to suppliers, which suggests that companies can increase profitability by extending the time to pay bills. The authors conclude that British companies use trade credits as a source of finance instead of taking advantage of possible cash discounts. **Yusoff et al. (2018)** investigated the relationship between working capital components and company profit-

ability for 100 selected manufacturing companies in Malaysia. The obtained results show that the days of collection of receivables are negatively related to the profitability of the company, while liabilities to suppliers are positively related to the profitability of the company. **Kumaraswamy and George (2019)** explored the relationship between trade credit management and corporate profitability. They use a sample of 41 manufacturing companies listed on the Saudi Arabian Stock Exchange for the period 2009-2017. The empirical results of the study identified a strong, positive, and significant impact of trade credit on firm profitability. The results of the study imply that effective trade credit management can significantly improve the cash flows and profitability of manufacturing companies in Saudi Arabia. **Hoang et al. (2019)** investigated the non-linear association between trade credit and profitability of small and medium enterprises from nine countries or territories located in the East Asia and Pacific region in the period from 2010 to 2016. This study indicates that trade credit receivable and trade credit payable have an inverted U-shaped relationship with SMEs' profitability, which implies the existence of an optimal trade credit level that balances between costs and benefits to maximize firm profitability. This result suggests that managers should try to keep the level of trade credit investment as close to the optimal point as possible to avoid the case that their profitability reduces when they move away from this point. Moreover, this study also finds that the optimal level of more financially constrained firms is lower than that of less financially constrained firms. **Kwon et al. (2020)** compared the impact of trade credit on corporate profitability during and after the financial crisis. They analyzed 5,751 Korean SMEs in the period 2009-2012. Their results show that trade credit is more profitable in the post-crisis period than during the crisis. **Högerle et al. (2020)** empirically investigated the impact of working capital management on firm profitability and shareholder value in Germany. They analyzed 115 enterprises listed on the German Prime Standard, covering the period from 2011 to 2017. The results indicate that shorter collection days have a positive and significant impact on profitability. The authors obtained a positive relationship between liability management and profitability. The authors concluded that in order to achieve increased profitability, managers should focus on receivables and inventory management, which can be addressed with tighter credit policies

or lean manufacturing tools. In contrast, extending payments periods to suppliers is crucial to the creation of shareholder value. Furthermore, they conclude that extending payment terms is particularly important in the long-term creation of shareholder value, whereas prompt payments increase profits in the short-run. In their study, **Braimah et al. (2021)** have empirically examined the relationship between working capital management and profitability in the non-financial sector of Ghana. The study was based on a sample of 366 SMEs in the period 2007-2016. The results indicate a positive relationship between the payment of trade payables and profitability and a negative relationship between the collection of trade receivables and profitability. The authors conclude that management should maintain an optimal level of receivable collection from customers. On the other hand, they conclude that negotiating a deferral of payment with suppliers leads to greater profitability.

Based on the latter, three hypotheses are set:

H1: Trade credits affect the level of profitability of small and medium enterprises in the Republic of Croatia.

H2: There is a significant and positive impact of liabilities to suppliers on the level of profitability of small and medium enterprises in the Republic of Croatia.

H3: There is a significant and negative impact of trade receivables on the level of profitability of small and medium enterprises in the Republic of Croatia.

3. Methodology

In this chapter, empirical research was conducted on a selected sample. In order to achieve the main goal and prove the hypotheses, panel data analysis examined the impact of trade credit on the level of profitability of Croatian small and medium enterprises in the period from 2011 to 2015.[1] This paper is focused on small and medium enterprises that represent 99.7% of all enterprises, hire 69.5% of all workers and participate with 58.5% in value added at the cost of production factors. The subject of this research are small and medium enterprises in the manufacturing sector, the wholesale sector, the retail sector, and the construction sector. These are enterprises in the four most important sectors according to the data on the total number of enter-

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[1] The method was used in the author's (Darija Prša) doctoral dissertation.

prises (about 47%), the number of employees (about 55%), total income (about 65%) and total business results (about 50%) (Structural Business Indicators of Enterprises, 2015).

3.1 Sample

The subject of the research are Croatian small and medium enterprises from the aforementioned sectors, which have the largest share of current assets in the structure of their balance sheet and the largest share of current liabilities in the liabilities on the balance sheet, namely liabilities to suppliers (the construction sector, the manufacturing sector, the retail sector, and the wholesale sector). This was the first criterion for sample selection. The paper used panel analysis on a sample of 276 companies for the period from 2011 to 2015.[2] Of the 276 observed companies, 66 companies are from the construction sector, 67 companies from the manufacturing sector, 64 companies from the retail sector, and 79 companies from the wholesale sector. Data were collected from the balance sheet and the profit and loss account of each observed company, which are published on the website of FINA (the Croatian Financial Agency). The second criterion for sample selection were small and medium-sized enterprises that were obliged to submit audit reports containing all data necessary for analysis. Companies with condensed financial statements were eliminated from the survey, as well as companies that submitted condensed financial statements in some years and audit reports in other years of observation. Finally, all companies that had available audit reports were observed for the entire observation period. The analysis was performed on accounting data on an annual basis because data for periods shorter than one year can be obtained exclusively in the company. The data were analyzed in the STATA 14 software package.

3.2 Data and variables

Following the example of other researchers, appropriate variables were selected and used to measure the impact of trade credit on the level of profitability of Croatian small and medium enterprises. In the panel model, the dependent variable is profitability, and the independent variable is trade credit, including trade payables on the one hand, and trade receivables on the other. The model used control variables of firm size, inventory, sales growth, inflation, and GDP.

Return on assets (ROA) is used to measure the dependent variable profitability, and it is calculated as the ratio of earnings before interest and taxes and the average total assets expressed in decimal numbers. The rate of return on assets tells us how much income is earned by the engaged assets. Return on assets is used by numerous researchers such as Garcia-Teruel & Martinez Solano (2007), Tauringana & Afrifa (2013), Enqvist et al. (2014), and Seyoum et al. (2016).

Supplier payment days (DPS) are used to measure the first independent variable trade credit, i.e., trade payables, and they are calculated as the ratio of the number of days in the year and the trade payables turnover. The turnover indicator for trade payables shows how many times a company pays its trade payables in one year. The company tries to postpone its obligations as long as possible, trying at the same time not to jeopardize its relations with suppliers and to take advantage of possible discounts for early payments. Supplier payment days show how many days it takes a company to meet its obligations to suppliers. Vendor payment days are used by numerous researchers such as Garcia-Teruel & Martinez-Solano (2007), Gul et al. (2013), Tauringana & Afrifa (2013), Almazari (2014), and Seyoum et al. (2016).

The days of collection of receivables (DCR) are used to measure the second independent variable trade credit, i.e., trade receivables, and they are calculated as the ratio of the number of days in the year and the receivables turnover. The receivables turnover indicator shows how many times a company collects its receivables during one year. The company strives to collect its receivables as quickly as possible. Receivables collection days represent the average time required to collect receivables from customers. Receivables collection days are used by a number of researchers such as Makori & Jagongo (2013), Enqvist et al. (2014), and Seyoum et al. (2016).

The logarithm of sales is used for control variables of enterprise size (SIZ), inventory binding days (INV) are used for an inventory variable, the percentage change in sales compared to the previous year is used for sales growth (SGR), the percentage of inflation in the current year compared to the previous year is used for the inflation rate (INF), and the percentage of GDP growth in the current year compared to the previous year is used for GDP growth.

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2   Research is part of the author's (Darija Prša) doctoral dissertation.

4. Empirical analysis

At the beginning of empirical analysis, descriptive statistical data analysis was conducted. The arithmetic mean, standard deviation, the minimum and maximum values, and the number of observations of each variable are given for the observed variables. Instead of the variable Sector, three additional *dummy* variables were introduced for three sectors: the variable MANU with the value 1 if the company belongs to the manufacturing sector, and 0 if it belongs to other sectors, the variable RETA with the value 1 if the company belongs to the retail sector, and 0 if it belongs to other sectors, and the variable WHOL with a value of 1 if the enterprise belongs to the wholesale sector, and 0 if it belongs to other sectors, while construction remained the reference sector. Then, a basic model for all sectors was developed together with three basic panel models: a combined model, a model with fixed effects, and a model with random effects.

4.1 Descriptive statistics

The survey covered 276 companies over 5 years. The data were balanced, so for each observation unit all data for all 5 periods were known. A total of 1,380 observations were made in the analysis, i.e., 276 companies were observed during the five-year period: 66 companies belong to the construction sector, 67 to the manufacturing sector, 64 to retail trade and 79 to wholesale trade. Table 1 shows the arithmetic means, the corresponding standard deviations, the minimum and maximum values of all variables in the model, as well as the total number of observations, the total number of observed units and the number of periods. All values are shown for the entire data set (overall), but also between units (between) and within the observed unit (within).

Table 1 Descriptive statistics

Variable		Arithmetic mean	Standard deviation	Minimum value	Maximum value	Number of observations
ROA	Overall	0.0884943	0.1630554	-0.497219	2.396413	N = 1,380
	Between		0.1046428	-0.2118538	0.8826069	n = 276
	Within		0.1251747	-0.5296716	1.882115	T = 5
DPS	Overall	70.91456	51.55904	1.028011	380.814	N = 1,380
	Between		46.62542	2.123173	317.4717	n = 276
	Within		22.15201	-85.24964	243.7062	T = 5
DCR	Overall	63.15416	49.12015	0.2747547	342.0538	N = 1,380
	Between		46.12385	0.3618379	278.8284	n = 276
	Within		17.07484	-15.28314	196.2664	T = 5
INV	Overall	79.69976	104.3281	0.6413468	930.9683	N = 1,380
	Between		99.49547	1.019088	788.1379	n = 276
	Within		31.83901	-156.9592	437.75	T = 5
SIZ	Overall	7.79957	0.309215	6.381289	8.748257	N = 1,380
	Between		0.2985514	6.450961	8.686576	n = 276
	Within		0.0820949	7.466658	8.198523	T = 5
SGR	Overall	0.0618562	0.2257467	-0.5494	1.659051	N = 1,380
	Between		0.1100395	-0.2576387	0.5754846	n = 276
	Within		0.1972004	-0.6117998	1.36877	T = 5
INF		0.01398	0.01504	-0.00500	0.03400	T = 5
GDP		0.00608	0.01085	-0.00720	0.02327	T = 5

Source: Authors, according to STATA calculations

The dependent variable ROA has an average value of 0.0885 and 8.85% with an average deviation from the average of 0.1631, i.e., 16.31%. ROA varies from -0.2119 to 0.8826 among enterprises, and from -0.5297 to 1.8821 within enterprises. Greater variation was recorded within enterprises (0.1252) than among enterprises (0.1046).

The supplier payday variable has an average value of 70.92 days, with a standard deviation of 51.56 and a range from 1.03 to 380.81. A larger standard deviation was observed between enterprises (46.63) than within enterprises (22.15). The receivables collection days variable has an average value of 63.15 days ranging from a minimum value of 0.27 days to a maximum of 342.05 days. A larger standard deviation is observed among enterprises (46.12) than within enterprises (17.07).

The average value of the variable inventory days is 79.70 days, with an average deviation from the average of 104.33. A larger discrepancy was recorded between enterprises (99.50) than within them (31.84). The average enterprise size was 7.80 with a standard deviation of 0.31 and a range from 6.38 to 8.75. A larger average deviation from the average value was recorded between enterprises (0.30) than within enterprises (0.08). The average annual sales growth is 0.0619 or 6.19% with a large standard deviation of 0.2257, i.e., 22.57%. Such a large variation is common on the Croatian market. Interestingly, a larger standard deviation of sales growth was recorded within the enterprise (0.1972) than between enterprises (0.1100). The average value of the inflation rate in the observed period was 1.40%, ranging from -0.50 to 3.40%. From 2010 to 2015, GDP grew by an average of 0.61%, ranging from -0.72% to 2.33%.

4.2 Correlation analysis

The Spearman correlation coefficient is calculated below to determine the relationship between the dependent variable ROA and the independent variables supplier payment days and receivables collection days. The results are shown in Table 2.

Table 2 Spearman correlation coefficients

	Spearman's rho	p-value
X1_Days_Of_Payment_To_Suppliers (DPS)	-0.246**	0.000
X2_Days_Of_Collecting_Receivables (DCR)	-0.054*	0.045

*Correlation is significant at the 0.05 level ($p<0.05$); **Correlation is significant at the 0.01 level ($p<0.01$)
Source: Authors, according to STATA calculations

Table 2 shows that there is a slight negative correlation between the days of collection of receivables and ROA ($r=-0.054$, $p<0.05$), while the correlation between the supplier payment day and ROA is relatively weak and negative ($r=-0.246$, $p<0.001$). It can be concluded that lower values of these variables are related to higher values of the ROA variable. It should certainly be taken into account that the correlations are weak to insignificant.

4.3 Panel analysis

Three models were developed based on the data of the observed sectors: a combined model, a fixed effects model and a random effects model. The results of these three models are shown in Table 3.

Table 3 Coefficients and associated standard errors in panel regression models

	Pooled	Fixed	Random
DPS	-0.00032***	-0.00009	-0.000280***
	(0.00010)	(0.00014)	(0.000097)
DCR	0.00011	-0.00043	0.000025
	(0.00012)	(0.00037)	(0.000121)
INV	-0.00012***	-0.00006	-0.000113***
	(0.00004)	(0.00005)	(0.000039)
SIZ	-0.00028	-0.0126	-0.00035
	(0.0238)	(0.0548)	(0.02405)
SGR	0.0512***	0.0198	0.0361**
	(0.0190)	(0.0194)	(0.0156)
INF	-0.00613*	-0.00485	-0.00586
	(0.00364)	(0.00436)	(0.00371)
GDP	-0.00357	-0.00249	-0.00317
	(0.00456)	(0.00475)	(0.00458)
MANU	0.0307*	0	0.0308*
	(0.0178)	(.)	(0.0178)
RETA	0.0384***	0	0.0350**
	(0.0136)	(.)	(0.0141)
WHOL	0.0527***	0	0.0539***
	(0.0142)	(.)	(0.0142)
CONSTANT	0.0923	0.23296	0.0954
	(0.1781)	(0.41921)	(0.180)
R2	0.0458	0.0109	
ρ(rho)		0.3638	0.2395
F-test		0.0000	
LM test			0.0000
Hausman test			0.1963
Wald test			0.0000
Wooldridge test			0.8828
corr (u_i. Xb)		-0.1269	
Number of observations	1,380	1,380	1,380
Number of units	276	276	276

* p<0.1, ** p<0.05, *** p<0.01, values in parentheses are corrected (clustered robust) standard errors

Source: Authors, according to STATA calculations

The justification for using the model with fixed effects in relation to the combined model was confirmed by the F-test (p<0.01). The justification for using the model with random effects in relation to the combined model was confirmed by the LM test (p<0.01). Since dummy variables for sector affiliation were used in the model, the random effects model is more appropriate than the fixed effects model. This was confirmed by Hausman's test (p>0.05). The result is in line with expectations because the large variability of data is characteristic of the Croatian market, so that according to Wooldridge, no statistically significant difference in the parameters of both evaluators can be established (Wooldridge, 2012).

The random effects model is the most appropriate model.

The model confirmed the negative impact of the supplier payment days variable (p<0.01) on ROA, which means that stretching the payment of trade payables, i.e., extended payment days to suppliers, will reduce the profitability of small and medium enterprises. The sector variable also proved to be statistically significant: the wholesale sector (p<0.01), the retail sector (p<0.05) and the manufacturing sector (p<0.01) have higher profitability compared to the reference construction sector. Of the control variables, sales growth (p<0.05) has a positive effect on the dependent variable ROA, which means that sales growth affects an increase in corporate profitability. Furthermore, a negative influence of both variables - stock binding days (p<0.01) and inventory binding days (p<0.001) - on the dependent variable ROA was confirmed. The influence of the variable collection of receivables and the size of the company on the profitability of the company was not statistically significant. Finally, GDP and inflation did not prove statistically significant.

4.4 Regression diagnostics

Since the values of the modified Wald test are p<0.01, it can be concluded that there is a problem of heteroscedasticity. The problem was fixed using the cluster command. The result of the Wooldridge test indicates the absence of first-order autocorrelation. The possible existence of a multicollinearity problem was examined by a correlation matrix. Table 4 shows the correlation coefficients and the corresponding level of significance. All coefficients range between -0.6 and 0.6, which indicates the absence of multicollinearity problems.

Table 4 Correlation matrix of pairs of independent variables

	DCR	INV	DPS	SIZ	SGR	INF	GDP	MANU	RETA	WHOL
DCR	1.0000									
INV	-0.0252 (0.3503)	1.0000								
DPS	0.2414* (0.0000)	0.1907* (0.0000)	1.0000							
SIZ	-0.0744* (0.0057)	-0.0758* (0.0048)	-0.1868* (0.0000)	1.0000						
SGR	-0.1259* (0.0000)	-0.0728* (0.0068)	-0.1694* (0.0000)	0.1504* (0.0000)	1.0000					
INF	0.0993* (0.0002)	-0.0115 (0.6695)	0.1010* (0.0002)	-0.0532* (0.0483)	-0.0162 (0.5472)	1.0000				
GDP	-0.0544* (0.0432)	0.0058 (0.8296)	-0.0690* (0.0104)	0.0307 (0.2544)	0.0829* (0.0021)	-0.5843* (0.0000)	1.0000			
MANU	0.0432 (0.1084)	0.0984* (0.0003)	-0.0210 (0.4348)	-0.0971* (0.0003)	0.0371 (0.1686)	0.0007 (0.9806)	0.0001 (0.9981)	1.0000		
RETA	-0.4073* (0.0000)	0.1015* (0.0002)	-0.0820* (0.0023)	0.0190 (0.4810)	-0.0308 (0.2529)	0.0006 (0.9812)	0.0001 (0.9982)	-0.3111* (0.0000)	1.0000	
WHOL	0.2130* (0.0000)	-0.0907* (0.0007)	-0.0761* (0.0047)	0.2077* (0.0000)	-0.0129 (0.6327)	0.0007 (0.9783)	0.0001 (0.9979)	-0.3585* (0.0000)	-0.3479* (0.0000)	1.0000

* p<0.5
Source: Authors, according to STATA calculations

5. Discussion

The relationship between profitability of small and medium enterprises in the Republic of Croatia and their use of trade credit was investigated in this paper. Descriptive statistical data analysis was conducted, the Spearman correlation coefficient was calculated, determining the strength and direction of the relationship between the dependent and independent variables, and three basic panel models were developed, i.e., the combined model, the fixed effects model and the random effects model.

All three set hypotheses were tested. The first hypothesis, **H1**: Trade credits affect the level of profitability of small and medium enterprises in the Republic of Croatia, has been partially confirmed. The supplier payment days variable proved to be statistically significant, while the trade receivables variable did not prove to be statistically significant. The second hypothesis, **H2:** There is a significant and positive impact of liabilities to suppliers on the level of profitability of small and medium enterprises in the Republic of Croatia, has been rejected. Namely, the negative impact of the variable supplier payment days ($p<0.01$) on ROA was confirmed. The third hypothesis, **H3:** There is a significant and negative impact of trade receivables on the level of profitability of small and medium enterprises in the Republic of Croatia, has been rejected because no statistically significant impact of the trade receivables variable on the level of enterprise profitability was obtained.

The model confirmed the impact of the payment days variable on the profitability of small and medium enterprises in the four most important sectors in the Republic of Croatia, which is negative, confirming the first basic working hypothesis, because there is a significant impact of trade payables on the profitability of SMEs. But the second hypothesis is rejected because there is significance, but in the opposite direction – the impact is negative. The results show that reducing the payment days to suppliers will increase a company's profitability. A negative relationship can result from using surplus money, stretching payments to suppliers, settling one's own debts and preserving existing jobs, rather than increasing sales. Most likely, the companies are in financial difficulties, so they are forced to postpone their payments, and it is very likely that the creditor depends on the debtor. Moreover, by extending the time of using suppliers

for financing, free trade credits become chargeable, and additional costs arise in the form of non-use of discounts for early payments and high penalties, i.e., default interest for non-payment on time. The results are consistent with Tauringana and Afrifa (2013), Almazari, (2014), Enqvist et al. (2014), and Seyoum et al. (2016). The obtained results are in line with the European Payment Practices survey (EOS Group, 2017), whose findings show that developed countries whose companies have the most liquid payments and achieve high earnings, also have the shortest payment terms. On the other hand, countries with payment difficulties and low wages have a longer period for payments at their disposal, which results in lower wages, which is characteristic of and especially pronounced in post-transition countries. Therefore, special care should be taken in terms of determining the optimal payment limit which, if exceeded, leads to the creation of poor payment practices that negatively reflect on the level of a company's profitability. Observing the sectors separately, a statistically significant negative impact of the supplier payment days variable on ROA was obtained for all sectors, with the exception of wholesale trade where no statistically significant impact was found. Companies in the construction sector had the longest payment days to suppliers (88 days), while companies in the retail sector had the shortest payment days to suppliers (63 days). Companies in the wholesale sector and in the manufacturing sector had payables to suppliers 65 and 69 days, respectively.

The model did not confirm the influence of the receivables collection days variable on the level of profitability of small and medium-sized Croatian companies, which rejects the third hypothesis. A longer collection period of receivables was expected to reduce a company's profitability. The results show that a decrease in receivables did not increase the profitability of small and medium enterprises. This result can be explained such that the positive and negative impact are very likely to be annulled. On the one hand, a reduction in credit standards led to an increase in sales, and thus the level of profitability of the company. On the other hand, companies were most likely not cautious in lowering credit standards with the cost of additional receivables outweighing the benefits of additional sales. In addition, money remained tied to receivables and negatively affected the level of profitability as it was not used to generate new earnings. European Pay-

ment Practices research shows a higher probability of late payment when the customer has a longer payment period. Thus, the post-transition countries have the longest payment terms, but also the smallest share of timely payments, while the most developed countries such as Germany have the shortest payment terms, but also the most liquid payments. The results are consistent with Makori and Jagongo (2013), Enqvist et al. (2014), and Seyoum et al. (2016).

Observing the sectors separately, no statistically significant impact of the trade receivables variable on the level of corporate profitability was recorded in any of the sectors. The shortest and the longest trade receivable collection periods were given to companies from the retail trade sector (27 days) and from the wholesale trade sector (80 days), respectively. Companies in the construction sector had 75 collection days, while companies in the manufacturing sector had 67 days. These results are expected since invoices and cash payments are most common in the retail trade sector.

6. Conclusion

Panel analysis investigated the relationship between the profitability of small and medium enterprises in the Republic of Croatia and their use of trade credit. The impact of trade payables and trade receivables on the profitability of Croatian small and medium-sized enterprises was examined.

Croatian SMEs from the four observed sectors, i.e., construction, manufacturing, wholesale and retail, can increase the profitability of their companies by not using trade credit as the most important source of their finance or by delaying the payment of obligations to suppliers for too long. The results indicate that it is more profitable for companies to take advantage of discounts for early payments on the one hand, and to avoid high costs of penalties for non-payment on time, as well as default interest, on the other. This indicates that Croatian companies are mostly users of collection loans. Given that the Croatian economy belongs to the group of post-transition countries, it can be concluded that the use of trade credit would not have a negative impact on the level of profitability of companies if companies did not have difficulties in doing business. Namely, if the companies were more liquid, they would use trade credit to the optimal limit, which would not result in additional operating

costs. Furthermore, surplus money would be used for the purpose of improving sales, which would have a positive effect on the level of a company's profitability, and not for the purpose of settling its own debts, preserving existing and creating new jobs. On the other hand, the research did not show a negative impact of trade receivables on the level of a company's profitability as expected, which also confirms the conclusions presented earlier. Due to the difficulties in doing business faced by companies in post-transition countries, they reduce credit standards in order to stimulate demand, but also due to the imposition of payment terms by customers, which will not result in increased profitability. Although no significant impact of trade receivables was found on the level of profitability in either direction, a decrease in profitability is expected due to high costs of maintaining receivables, and partly due to permanently uncollected receivables.

The research improved the knowledge of credit policy, i.e., the impact of the use of trade credit on the level of profitability of small and medium enterprises in a small post-transition economy characterized by complexity in starting a business, administrative barriers to doing business, insufficient share of growing companies, financing difficulties and obtaining loans, underdeveloped financial markets, etc.

The basic scientific contribution of this paper and the subject of research consists of research findings that have determined the effects of credit policy on the level of corporate profitability. The conducted research showed that trade payables significantly affect the profitability of small and medium-sized enterprises, while trade receivables do not have a significant impact on the level of profitability of Croatian enterprises.

The scientific contribution is manifested in the development of a model for analyzing the impact of credit policy, i.e., trade credit of suppliers on the one hand, and trade receivables on the other hand, on the profitability of small and medium enterprises in a specific environment characteristic of post-transition countries.

Although the model was tested on Croatian small and medium-sized enterprises, it is also applicable to enterprises in other post-transition countries, especially in the countries of the region. The scientific results presented in this paper make a scientific contribution to economics in theoretical and

applied aspects. Moreover, the scientific results and findings of this research are of great value for the management of small and medium enterprises in the Republic of Croatia, but also in the countries of the region.

Despite the importance of the research results in this paper, the authors encourage further research. This paper based profitability on accounting data. Future studies could measure profitability based on a company's market value. This paper has several limitations. Since SMEs that were required to submit an audit report were analyzed, it is questionable whether the results can be applied to all SMEs in the region. For such companies, access to financial markets is even more difficult, so their management of trade credit will be even more important. In addition, due to insufficient data, the authors could not distinguish between small and medium-sized companies. The observation period of this paper is from 2010 to 2015. The results are expected to be the same by 2019, which is the last "normal" year before the pandemic. But the research should be conducted during the crisis and after the crisis, where the need for trade credit will certainly be even more important given the problems with liquidity and profitability.

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