# PROVISION OF TRADE CREDITS IN RELATION TO CORPORATE PAYMENT ABILITY: A CASE STUDY OF THE VISEGRAD FOUR

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Cite as: Kristofik, P., Horak, J., Suler, P. (2019). Provision of trade credits in relation to corporate payment ability: A case study of the Visegrad four. Ekonomicko-manazerske spektrum, 13(1), 96-108.

Available at: dx.doi.org/10.26552/ems.2019.1.96-108

**Abstract:** The contribution is focused on the issue of payment discipline and providing trade credits. Providing trade credits has become a common business practice. In contribution, our attention is paid to receivables in particular trade receivables, also known as trade credits. Advantageous payment terms can be considered as a competitive advantage. If a supplier does not request immediate payment for a good or service but provides its customers a possibility for invoice payment, we can talk about advantageous payment terms. In a functioning and efficient market economy, providing trade credits is a necessity. Nevertheless, trade credits need to be provided very carefully. The main aim of the contribution is to evaluate the current state of payment discipline of enterprises in the Visegrad Four together with the identification of factors affecting the solvency and at the same time to propose solutions to this crucial issue of the business environment. Within the practical part of the contribution, the authors focus on the importance of proactive management of receivables and the comparison of surveys of chosen agencies. The first part of the contribution is focused on the analysis of payment discipline. The key results of the chosen survey were analyzed. Atradius - European Payment Practices Barometer: Eastern Europe 2018, EOS - Payment Practices 2018 and Intrum Justitia - European Payment Report 2018 were used. The authors also test a hypothesis about existing a statistically significant relationship between payment discipline and selected indicators. The last part is focused on designing possible solutions for more effective receivables management, which will result in partial recovery of the business environment.

Keywords: trade credit, receivables management, V4, payment discipline

**JEL Classification**: G3, M2

#### 1 Introduction

The biggest changes in the management of receivables occurred after the financial crisis of 2008, which has changed the attitude of businesses to the provision of trade credits to business partners without further analysis of their solvency. (Andrejovska and Banociova, 2014) It is the business partner's payment ability that can significantly jeopardize the payment

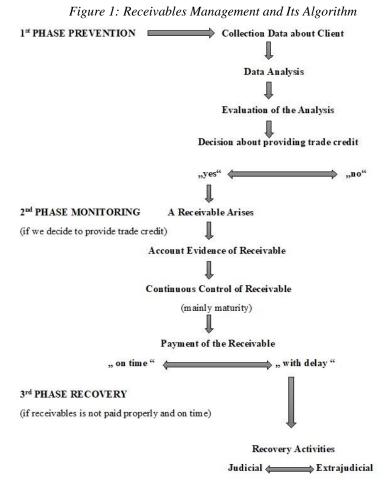
ability of the supply company. Nevertheless, many authors point out the passive attitude of businesses in providing trade credits. (Dmitrieva, 2018) The situation in which all trade credits are paid properly and on time is unrealistic. Providing trade credits is not commonplace. (Van den Bogaerd and Aerts, 2015) It should reflect the client's creditworthiness. Authors Frennea et al. (2019) state that company, in line with its objectives, should adjust the terms and conditions of trade credits to individual groups of customers. They are talking about segmentations of clients. Liu et al. (2018) also state that the business should decide to reject a commercial loan if there is an increased likelihood that the client will not pay properly and on time, or fail to pay at all. Businesses should pay attention to optimize the level of provided trade credits in terms of risk and liquidity. (Siekelova, 2015; Zhang et al., 2018) The authors Mian and Smith (1992) said that in current assets, profitability and liquidity meet, but they act against each other. Therefore, in the process of determining the number of current assets and its individual components, it is necessary to pay attention to optimize it. In this process, receivables management plays a very important role. (Nam and Uchida, 2019; Berkson, 2014) Receivables management is defined as a purposeful business activity aimed at optimally guiding its receivables. (Shrivastava et al., 2019) The authors Jung et al. (2018) consider receivables management as one of the company's most important activities. The author (Giedt, 2018) state that decisions about current assets and its components may be reversed more easily than in the case of investments in fixed assets. This statement can be only partially accepted. In the case that the receivables in the company become irrecoverable, it is not possible to decide that trade credit will not be provided. Late payments cause pressure, deteriorating their own payment discipline and also negatively affecting competitiveness. (Otter and Halasi, 2018) Effective receivables management is one of the possible tools against insolvency, payment incompetence or payment unwillingness on the part of the customer, which lead to the emergence of secondary insolvency in the company providing trade credits. (Kljucnikov et al.., 2017; Salamon and Mesko, 2016) We distinguish three basic parts of receivables management: (Novytska, 2012)

- Prevention
- Monitoring
- Recovery

Some of the authors (Cornille et al., 2019; Soto-Scosta et al., 2016; Van Den Berg et al., 2018) state that the first part – prevention is the most important. This phase helps to prevent the emergence of difficult, badly recoverable, or bad debts and helps to save costs related to these types of receivables. It is a part of proactive receivables management based on paying attention to receivables before they arise. (Gaganis et al., 2019; Hahnel, 2019) The aim of this phase is to analyze the client's solvency on the basis of the collected information and then decide to provide or reject a trade credit based on the results of this analysis. If the analysis is done correctly it is possible to significantly reduce the risk of non-payment by the business partner. In the case of providing trade credit company also make a decision about payment terms and other conditions of trade credit based on the client's segmentation.

In the next phases, the company can no longer reassess the provision of the trade credit. Ideally, the monitoring phase ends with repayment. If the client does not pay his debt properly and on time, the company should focus on the recovery activities in order to obtain payment as soon as possible.

Figure 1 describes these parts more detailed.



Source: Jamali et al., 2017; Jim Yeub and Myungkyu (2019)

The aim of our contribution is to assess the situation regarding the provision of trade credits in V4 countries. Used methodology as well as the results are presented in the following sections of the paper.

### 2 Methodology

The first part of our contribution is focused on the analysis of payment discipline. Key results of the chosen survey were analysed. Atradius - European Payment Practices Barometer: Eastern Europe 2018, EOS - Payment Practices 2018 and Intrum Justitia - European Payment Index Report 2018 were used.

Atradius - European Payment Practices Barometer focuses on the B2B sector. The survey is conducted in Central and Eastern Europe within 7 countries including V4 countries. A total of 1,447 companies from these seven countries participated in the survey in 2018.

Since 2007, the annual EOS survey 'European Payment Practices' has been done. On behalf of EOS, independent market research institute Kantar TNS conducted phone interviews with 3,400 companies in 17 European countries in the spring of 2018. It analysed the opinions of experts in receivables management in companies with average revenues of EUR 28 million and a workforce of 183. 200 companies in each of the countries Denmark, Germany, Spain, UK, France, Belgium, Switzerland, Romania, Czech Republic, Croatia, Hungary, Bulgaria, Slovakia, Slovenia, Poland, Russia and Greece took part in the survey.

In the report of Intrum Justitia data from 9,607 companies across Europe are gathered to gain insight into the payment behaviour and financial health of European businesses. The survey was conducted simultaneously in 29 European countries between February and March 2018. The survey was conducted using an online survey tool and telephone interviews. Companies in the Czech Republic were questioned by WS CEE Communication Consulting. Companies in Slovakia were questioned by Crystal Call and companies in Hungary were questioned by Bellresearch.

As was mentioned above, provision of trade credits impacts corporate payment ability, mainly in cases when a client does not pay properly and on time. Authors (Menger, 2016; Robson, 2019) dealing with this issue recommend companies analysis payment ability of potential clients before providing trade credits. Payment ability is usually analysed by using these indicators:

- Days sales outstanding (DSO). It is a measure of the average number of days that it takes a company to collect payment after a sale has been made.
- The current ratio. It is a liquidity ratio that measures a company's ability to pay short-term obligations or those due within one year.
- The debt ratio. It is a financial ratio that measures the extent of a company's leverage. The debt ratio is defined as the ratio of total debt to total assets, expressed as a decimal or percentage.
- Return on sales (ROS). It is a ratio used to evaluate a company's operational efficiency. This measure provides insight into how much profit is being produced per EUR of sales.

In the next part of the paper we focused on finding the existence of a statistically significant relationship between these indicators and the customer's solvency. We estimated the company's solvency based on the Days payable outstanding (DPO). It is a financial ratio that indicates the average time (in days) that a company takes to pay its bills and invoices to its trade creditors, which include suppliers, vendors or other companies. Based on the above, we set four hypotheses.

- H<sub>1</sub>: There is a statistically significant relationship between DSO and DPO.
- H<sub>2</sub>: There is a statistically significant relationship between the current ratio and DPO.
- H<sub>3</sub>: There is a statistically significant relationship between the debt ratio and DPO.
- H<sub>4</sub>: There is a statistically significant relationship between ROS and DPO.

To confirm the existence of statistical dependence in hypothesis we tested the significance of the correlation coefficient. The test statistic has a Student t-distribution with (n-2) degrees of freedom.

$$T = r \cdot \sqrt{\frac{n-2}{1-r^2}} \tag{1}$$

Where:

*n* sample size,

*r* Pearson correlation coefficient.

If T is less than the critical value from the table of Student distribution at alpha (we set alpha at 0.05) level with (n-2) degrees of freedom, we can assume that there is a statistically significant relationship between the surveyed indicators.

The strength of this dependence is expressed by Pearson correlation coefficient. In interpreting the results Cohen's interpretive of Pearson correlation coefficient was used as follow:  $0 < | r | \le 0.1$  trivial dependence,  $0.1 \le | r | \le 0.3$  small dependence,  $0.3 < | r | \le 0.5$ 

moderate dependence,  $0.5 < |r| \le 0.7$  large dependence,  $0.7 < |r| \le 0.9$  very large dependence,  $0.9 < |r| \le 1$  nearly perfect correlation.

Our database is made up of 1,950 companies from each country of the Visegrad Four; 7,800 companies in total. Our research is focused on V4 countries. For the purposes of our research, it was necessary to obtain data from the financial statements of V4 countries. We used an access to the Amadeus database created and produced by Bureau van Dijk A Moody's Analytics Company. In the future, after obtaining the necessary data, we are planning to extend our research for years to come. Therefore, in this research we were working with data from the financial statements of these companies in 2017. As was mentioned above, research manuscripts report large datasets that are deposited in Amadeus. Amadeus contains comprehensive information on about 21 million companies across Europe. You can use it to research individual companies, search for companies with specific profiles and for analysis. We focused only on companies with the private domestic ownership structure.

#### 3 Results

Currently, late payments are becoming a major business problem in most countries. For this reason, the importance of monitoring the payment discipline of business partners is becoming increasingly important. Globally, many credit risk management companies deal with the monitoring of European business payment discipline. These companies conduct surveys every year. In our contribution, we focused on the results of surveys conducted by Atradius, EOS Group and Intrum Justitia, which can be considered as market leaders in this area. The first part of the results is focused on analysing payment discipline surveys conducted in 2018.

## 3.1 Key Survey Results of Atradius - European Payment Practices Barometer: Eastern Europe 2018

The proportion of B2B credit sales in Eastern Europe decreased from an average of 40.3% in 2017 to 36.9% in 2018. This was mainly due to a decrease of almost eight percentage points in Hungary. The proportion of total B2B sales made on credit in Poland is 29.1%, 41.8% in the Czech Republic, 47.5% in the Slovak Republic and the highest proportion is in Hungary 57.6%. Respondents in the Eastern European countries surveyed are more likely to provide trade credit to their domestic B2B customers than to their B2B customers abroad. 41.5% of respondents said refusing to grant credit terms is mainly due to the poor payment behaviour of their domestic B2B customers and 34.2% said that it's a decision based on the financial weakness of the customer. Businesses in Eastern Europe provide credits to foreign B2B customers mainly for the same reasons; common practice, to build trust and relationships and to attract new customers. There are, however, different explanations for refusing credit sales. More specifically, 24.1% of respondents in the region said that they refuse to grant credit terms to their B2B customers abroad due to high currency risk and 19.0% because there is a high economic and/or political risk in the customer's country.

In 2018, respondents in Eastern Europe gave their customers 35 days, on average, to pay invoices obligations. Looking at the average payment terms by sector, B2B customers of respondents in the metals (on average, 46 days), machines and construction materials sectors (each with 45 days on average) were given the most lenient payment terms. In contrast, B2B customers in the services sector had the shortest time to fulfil their payment obligations – on average, 28 days. (Atradius Payment Practices Barometer, 2018) Table 1 shows the main reasons for payment delay.

Table 1: The main reasons for payment delays

		The m	ain reasons fo	r paymer	nt delays l	by domesti	ic B2B customer	rs (%)	
	Insufficient availability of funds	Dispute over quality of goods delivered or service provided	Goods delivered or services provided do not correspond to what was agreed in the contract	Complexity of the payment procedure	Inefficiencies of the banking system	Incorrect information on invoice	Buyer using outstanding debts / invoices as a form of financing	Formal insolvency of the buyer (example: liquidation, receivership, bankruptcy)	Invoice was sent to wrong person
Eastern Europe	68.8	11.2	8.6	14.7	10.7	11.8	30.9	17.6	5.2
Poland	62.2	12.1	15.5	18.9	15.0	15.8	32.3	22.85	5.5
Czech Republic	48.2	21.5	6.7	15.6	8.2	6.7	57	27.4	8.9
Slovak Republic	64	8.8	4.4	2.6	0.0	7.9	42.1	14.0	3.5
Hungary	70.4	7.4	3.7	14.8	4.6	9.3	23.2	8.3	6.5
		The m	ain reasons fo	r paymer	nt delays l	by domesti	ic B2B customer	rs (%)	
	Insufficient availability of funds	Dispute over quality of goods delivered or service provided	Goods delivered or services provided do not correspond to what was agreed in the contract	Complexity of the payment procedure	Inefficiencies of the banking system	Incorrect information on invoice	Buyer using outstanding debts / invoices as a form of financing	Formal insolvency of the buyer (example: liquidation, receivership, bankruptcy)	Invoice was sent to wrong person
Eastern	35.4	18.4	13.5	32.5	21.9	13.5	31.0	11.9	4.8
Europe Poland	24.4	18.0	24.4	38.5	23.1	19.2	24.4	14.1	1.3
Czech Republic	23.6	29.2	8.3	33.3	20.8	13.9	51.4	20.8	8.3
Slovak Republic	32.3	12.9	3.2	9.7	0.10	8.1	61.3	4.8	3.2
Hungary	49.2	14.8	3.3	21.3	9.8	9.8	19.7	11.5	5.0

Source: Atradius Payment Practices Barometer, 2018

The majority of respondents in Eastern Europe (54.7%) said that payment delays did not have a significant impact on their businesses. However, 18.1% reported that they needed to postpone payments to suppliers. For 14.1% of respondents, payment delays had a more significant impact as it led to revenue loss.

The average proportion of uncollectable B2B receivables in Eastern Europe is stable at 0.9% after 1.0% in 2017. In 2018, respondents in Eastern Europe gave their customers 35 days, on average, to pay invoices obligations. Looking at the average payment terms by sector, B2B customers of respondents in the metals (on average, 46 days), machines and construction materials sectors (each with 45 days on average) were given the most lenient payment terms. In contrast, B2B customers in the services sector had the shortest time to fulfil their payment obligations — on average, 28 days. B2B customers of respondents in the construction materials and those in the paper sector seem to have generated some of the longest payment delays.

The last part of the survey focuses on the use of the e-invoicing system. 65.7% of respondents in Eastern Europe said that they are already using electronic invoicing (e-invoicing) with their B2B customers. By country, e-invoicing appears to be most broadly used

in the Czech Republic (77.9% of respondents). They are followed by their peers in Poland and Slovakia (72.6% and 70.2% respectively). In contrast, with a percentage of 48.7%, respondents in Hungary are the most reluctant to invoice online. However, with 15.1%, Hungary is also the country where the respondents are most willing to adopt e-invoicing this year. The majority of respondents in Eastern Europe seem to be e-invoicing, but has the change accelerated payments. 50.0% of respondents in the region said that after invoicing their B2B customers electronically, they received payments quicker. 47.4% said that e-invoicing had no noteworthy effect and only 2.7% said that it caused a slowdown in payment. (Atradius Payment Practices Barometer, 2018)

#### 3.2 Key Survey Results of EOS - Payment Practices 2018

Based on the key survey results we can state that payment discipline improved thanks to the overall improvement of the economic situation. It has been a part of a five-year positive trend. In 2018, 79% of invoices were paid properly and on time, whereas in 2014 it was only 75%. During this period payment terms got shorter. Nevertheless, 18% of invoices in Europe continue to be paid too late and 3% of all outstanding receivables are not paid at all. (EOS, 2018). The survey found differences in payment discipline for businesses in different European countries.

The survey also showed that businesses from Western European countries (such as Denmark, Germany, Spain and Switzerland) show the best results in trade credits payments. Approximately 82% of invoices in Western Europe are paid properly and on time. The countries where payment of trade credits is delayed is Slovakia, Greece, Romania and the UK, with only 75% of the invoices being paid on time. In the case of the United Kingdom, this can be caused by the imminence of Brexit, which causes uncertainty and slows the country's economy.

The survey also focuses on the main reasons for late payments. Unlike the previous survey, it specifically examines the reasons for late payments for the B2B and B2C sectors. The main reasons for payment delays are shown in figure 2.

**Business Customers Private Customers** Customers Use of supplier Temporary cash 56% 52% failing to pay flow problem Excessive Capacity Insolvency 41% debts/personal shortages bankruptcy Human Intentional 33% Forgetfulness non-payment Irregularities Technical Intentional in processing non-payment/fraud reasons invoices

Figure 2: The main reason for payment delays

Source: EOS, 2018

Above all, the main reasons why B2C companies pay their liabilities after maturity are temporary cash flow problems. In the case of B2B companies, the collection of overdue debts leads to a delay in payment of their own liabilities.

#### 3.3 Key Survey Results of Intrum Justitia - European Payment Index Report 2018

European Payment Index Report also confirmed improvement in payment discipline after several years of economic growth.

Within our comparison we focused on the chosen questions:

- 1. Have you been asked to accept longer payment terms than you feel comfortable with (versus last year)?
- 2. Would faster payments from your debtors enable your company to hire more employees (versus last year)?
- 3. What payment terms do you allow your customers, on average?
- 4. What is the average time actually taken by customers to pay?
- 5. What are the main causes of late payment of your own customers?

The results are shown in table 2.

Table 2: Key survey results of Intrum Justitia survey for V4 companies

Questions	Answers	HUNGARY	POLAND	CZECH REPUBLIC	SLOVAK REPUBLIC
Have you been asked to accept	Yes (%)	71	51	90	41
longer payment terms than you	No (%)	25	41	10	58
feel comfortable with?	Don't know (%)	3	9	0	1
	Yes, definitely (%)	2	11	4	8
Would faster payments from	Yes, probably (%)	12	17	8	8
your debtors enable your company to hire	No, probably not (%)	17	35	28	25
more employees?	No, definitely not (%)	66	28	58	57
	Don't know (%)	3	8	3	2
	B2C 2018 (days)	12	24	19	18
What payment terms do you	B2C 2017 (days)	14	24	17	17
allow your customers, on average?	B2B 2018 (days)	21	28	32	23
	B2B 2017 (days)	27	26	27	18
	Public sector 2018 (days)	23	26	24	25

	Public sector 2017 (days)	27	25	22	22
	B2C 2018 (days)	14	25	19	18
	B2C 2017 (days)	11	27	17	20
What is the average time	B2B 2018 (days)	26	33	37	23
actually taken by customers to pay?	B2B 2017 (days)	26	33	32	24
	Public sector 2018 (days)	33	33	25	29
	Public sector 2017 (days)	27	29	26	25
	Debtors in financial difficulties (%)	55	58	76	49
What are the main causes of late payment of your own	Disputes regarding goods and services delivered (%)	7	17	23	18
customers?	Administrative inefficiency of your customers (%)	29	30	47	24
	Intentional late payment (%)	28	51	56	36

Source: Intrum Justitia, 2018

Almost a fourth (37%) of businesses in Hungary report that late payments threaten their survival. This is second only to the United Kingdom where 27% of companies state the same level of impact, and can be compared with the European average, with 10% of European businesses saying that late payments are a threat to survival to a high degree. Late payments causing Hungarian companies to dismiss employees. Poland is close to the European average when it comes to the amount of time a company will allow before handing over an outstanding invoice to a collection agency. The Polish average for handing over an outstanding invoice to a collection agency is reported to be 78 days, which can be compared with the European average of 82 days.

Late payments are reported by Polish businesses as having a high level of impact on recruitment. Average bad debt losses as a percentage of total annual revenue amounted to 2% in Poland in 2017. This can be compared with the European average debt loss in 2017 of 1.7%. In 2016, the average bad debt loss among Polish companies amounted to 2.4%.

The most common way for businesses in the Czech Republic to protect themselves from bad payment is through the use of pre-payments, a practice that 72% of Czech businesses say they implement for this purpose. Almost four out of ten (38%) businesses in the Czech Republic also say they use debt collection. A third (33%) of the Czech companies polled also

stated that GDPR will have a negative impact on their business. Among the Czech companies polled, nine out of ten (89%) say that they have accepted payment terms that are longer than they actually felt comfortable with. This can be compared with the European average of 56 percent of European businesses stating the same.

Slovakian companies anticipate a low level of risks from their debtor. Slovakian companies also report a low level of impact from late payments in terms of liquidity squeezes, only 7% say that late payments have a high impact in terms of causing liquidity squeezes, which can be compared with the European average of 21%. Slovakian companies exhibit a low utilization rate of provisions in the European Late Payment Directive Only 10 percent of Slovakian companies say that they are familiar with the European Late Payment Directive, which can be compared with the European average level of awareness of 28%. (Intrum Justitia, 2018)

#### 3.4 Hypothesis

To confirm the existence of statistical dependence in hypothesis, we tested the significance of the correlation coefficient. Function T.INV.2T in Excel was used to determine the critical value of Student distribution with at alpha (we set alpha at 0.05) level with (7,800-2) degrees of freedom. By comparing the critical value with the test statistics value, we make a decision about the null hypothesis. To calculate the test statistics value, formula  $T = r \cdot \sqrt{\frac{n-2}{1-r^2}}$  was used. This formula is described in the Methodology section of the contribution. Results of hypothesis testing are shown in table 3.

Table 3: Hypothesis testing

There is	a statistically significant rela	ntionship between DSO and DPO.
Test Statistics Value	Critical Value	Result
61.63	1,96	The statically significant relation is <b>confirmed</b>
There is a stat	istically significant relationsl	nip between the current ratio and DPO.
Test Statistics Value	Critical Value	Result
21.78	1,96	The statically significant relation is <b>confirmed</b>
There is a sta	ntistically significant relation	ship between the debt ratio and DPO.
Test Statistics Value	Critical Value	Result
42.50	1,96	The statically significant relation is <b>confirmed</b>
There is	a statistically significant rela	ationship between ROS and DPO.
Test Statistics Value	Critical Value	Result
42.50	1,96	The statically significant relation is <b>confirmed</b>

Source: authors calculation

We can state the existence of statistically significant relation between DPO and all chosen indicators recommended to analyse before providing trade credits to avoid failure of a debtor. In all cases, we also calculated the Pearson correlation coefficient:

- There is a large negative linear correlation between DPO and DSO (-0.59).
- There is a moderate negative linear correlation between DPO and the current ratio (-0.45).
- There is a trivial positive linear correlation between DPO and the debt ratio (0.25).
- There is a trivial positive linear correlation between DPO and ROS (0.25).

#### 4 Discussion

Analysed surveys dealing with payment discipline claim some important results. Providing trade credits has become a common business practice but payment discipline is still problematic. Average B2B credit sales were at level 36.9% in Eastern Europe in 2018. The highest proportion of total B2B credit sales was Hungary (57.6%), the lowest was in Poland (29.1%). Companies are more willing to provide trade credit to domestic business partner compared to a foreign business partner. The main reasons for payment delays are insufficient availability of funds in companies and also formal insolvency of the buyer. Many respondents also state that their clients use outstanding invoices as a form of financing. Mainly during the financial crisis outstanding invoices were considered the cheapest form of foreign financial funds. Secondary insolvency often has a negative impact on the economy, prevents companies from investing, creating jobs, bringing new products to the market, expanding into foreign markets. With a partial solution, the European Parliament has also come up with a directive that still has low awareness among entrepreneurs. It is Directive 2011/7/EU on late payments in commercial transactions. The main provisions include:

- Public authorities have to pay for the goods and services that they procure within 30 days or, in very exceptional circumstances, within 60 days.
- Enterprises have to pay their invoices within 60 days, unless they expressly agree otherwise and provided it is not grossly unfair.
- Automatic entitlement to interest for late payment and €40 minimum as compensation for recovery costs.
- Statutory interest of at least 8% above the European Central Bank's reference rate.
- EU countries may continue maintaining or bringing into force laws and regulations which are more favourable to the creditor than the provisions of the Directive. (Directive 2011/7/EU on late payments in commercial transactions)

In practice, according to the European Payment Report Index 2018 (Intrum Justitia, 2018), only 28% of companies are familiar with the existence of the Directive. An effective solution would be to relaunch the late payment information campaign, which would aim to highlight the rights of entrepreneurs.

The biggest changes in the management of receivables occurred after the financial crisis of 2008, which has changed the attitude of businesses to the provision of trade credits to business partners without further analysis of their solvency. Using an external rating agency is low mainly due to high costs. Most companies use their own rating models, if at all. On the basis of the findings, one of the proposals for improving the state of insolvency can also be to tighten the criteria when deciding to grant a trade credit to the customer. Equally positive impact could be the intensified verification of business partners and the use of internal rating models. It is very important to know which indicators the company should focus on. Payment ability is usually analysing by using these indicators:

- Days sales outstanding (DSO).
- The current ratio.
- The debt ratio.
- Return on sales (ROS).

In our contribution we focused on testing hypothesis if there is a statistically significant relationship between these indicators and DPO indicator. In all cases we confirmed the existence of relationship according to the results of the chosen test. Rating schemes can be customized by each company to meet its own needs and customer availability. The difference

in the rating of new and existing customers is mainly due to the fact that an important source of information - historical customer payment discipline - can be incorporated into the rating for existing customers. Due to a large number of enterprises in the sample, it was not possible to develop models customized to the needs of 7,800 enterprises separately. In addition to the selected indicators, we recommend that businesses add additional selected quantitative or qualitative indicators to the client's creditworthiness assessment models.

Advantages of using a rating model:

- **Efficiency** a rating model allows a quick evaluation of potential clients.
- Consistency evaluation of all customers according to the same criteria.
- Allows **categorization** of customers according to the level of risk and volume of receivables and prioritization of collections to the riskiest customers.
- Allows quantification and monitoring the credit risk of the entire receivables portfolio.

#### 5 Conclusion

On the basis of the findings, it can be concluded that companies have deficiencies in the management of receivables and thus are in the position of secondary insolvency. One of the drawbacks is the failure to use the internal rating system to evaluate the customer or the services of credit rating agencies. Another adverse finding is the fact that more than half of the respondents have experienced worsening payment discipline over the past few years in their customers. A partial solution to the issue could be to amend legislation that would contribute to the overall recovery of the business environment, to a faster collection of claims and greater transparency of companies. An internal solution would be to apply a rating model that would help, based on various non-financial information and financial indicators, assist the supplier in deciding to grant a commercial loan.

Funding: This research received no external funding

**Author Contributions:** All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

**Conflict of Interest Statement:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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