

PASSIVITY OF CREDITORS AMONG NON-FINANCIAL ENTERPRISES IN BULGARIA

The aim of the article is to study creditor passivity among non-financial enterprises in Bulgaria. The analysis is based on data from a national representative empirical sociological survey among 1000 non-financial enterprises of different size and main activity. The results of the survey reveal that a significant part of the companies (little more than one-tenth of respondents) do not have a precisely defined approach to reducing the risk of overdue receivables.

The profile of companies showing creditor passivity is outlined. On the whole, it can be summarized that the share of firms lacking a certain approach to reducing the risk of overdue receivables is higher for enterprises with lower turnover and value-added, with fewer employees, operating in sectors with lower entry barriers, firms that have failed to expand their markets and their production capacity in recent years and are characterized by weak innovation activity.

There are statistically significant links between the lack of a certain approach to mitigating the risk of overdue receivables and various indicators of the relative market power of firms.

The study also identifies dependencies between the passivity of firms as creditors and their innovation activity, the specifics of the corporate culture, in particular, the management of the motivation of the employees, the maintenance of the image of the company in the public space, the concern for building a long-term relationship with the trade partners. These dependencies also testify to the importance of the quality of management and, in particular, to the role of having a comprehensive vision of the company's development for effective credit risk management.

JEL: G30; G32; G39

Introduction

Trade credit is part of the natural business environment. It is associated with a number of benefits for companies, but also with serious risks arising from the overdue payments. According to Van Horen (2007), companies' ability to quickly recover their financial resources invested in receivables accelerates their cash flow and mitigates the negative effect commercial lending can have on the growth of an enterprise. Over the last decades, maximizing the value of the company has established itself as a leading goal of their operation (Nenkov, 2016).

¹ Galya Taseva, PhD, is from Economic Research Institute at BAS.

In Bulgaria, as well as in a number of eastern and central European countries, intercompany indebtedness and delayed payments between businesses are sharply increasing in the transition to a market economy. Different factors are considered in the theory (see, e.g. Taseva-Petkova, 2017). Overall, the literature focuses mainly on the macroeconomic factors of creditor passivity and less attention is paid to the in-company determinants of the behaviour of non-financial enterprises as creditors.

But even after the transformation of economies, the problem of late payments between enterprises in the Eastern and Central European countries persists. Moreover, overdue inter-company liabilities are one of the most significant problems faced by firms in the Member States in the European Union. One reason for this is the passivity in the behaviour of the creditor companies, which justifies the necessity of its research. Despite the serious problem of overdue intercompany payments in Bulgaria, there is also a deficit of research in the field.

A report of the European Commission to the European Parliament and the Council on the implementation of Directive 2011/7/EU on combating late payment in commercial transactions clearly identifies signs of creditor passivity in the behaviour of companies and some of the factors that determine it: "Approximately half of all creditors do not exercise their right to demand interest on late payments and compensation for recovery costs provided for in the Directive, for fear of harming their trading relationship. The external evaluation also showed that for the same reason, many SMEs continue to accept long payment periods imposed by larger companies. This is an inherent feature of business culture, based on differences in the positions of firms in the supply chain, their size and degree of interdependence, as well as other factors such as the specificities of the market sector." (p. 4).

In the face of difficulties in selling the products and growing competition for market share among companies, as is the situation in the period of recovery from the crisis, the role of trade credit to stimulate sales is strengthened, but also the problems related to the passivity of creditors, which requires its analysis precisely during the post-crisis period.

The aim of the article is to study creditor passivity in non-financial enterprises in Bulgaria. In order to achieve this goal the following tasks have been set: 1) to study the dependence between the lack of approach to reduce the risk of overdue receivables and the basic internal characteristics of the enterprises in the country; 2) to analyze the in-company determinants of the creditor's passivity; 3) to outline the profile of companies that show passivity as creditors.

Theoretical overview

According to Bonin and Schaffer (1999), the reason for the creditor's passivity of companies during the transformation of the economies in the eastern and central European countries is the insufficient return on the liquidation of the debtor company. Schoors and Sonin (2000) identify two extreme cases of equilibrium: the first when all creditors choose to wait for and the second, when everyone prefers the forced collection of the receivables. In the basic model of Schoors and Sonin (2000), each creditor, comparing the present

values of the results for both approaches to determine whether to wait or collect the arrears. At the beginning of the transition, due to the lack of legislation on bankruptcies, an equilibrium is formed in the former communist countries, where creditors prefer the option to wait. In later periods, bankruptcy laws and procedures have been introduced in the countries, but creditor behaviour remains dominated by creditor's passivity.

The explanation of Schoors and Sonin is that creditors find themselves in a Nash equilibrium trap in which creditors prefer not to resort to enforcement. Changing this balance is linked to coordination costs, and they are a growing function of the number of agents whose conduct is coordinated. Thus, coordination costs are the reason for keeping the existing balance.

In transition countries, creditor passivity is fueled, in addition to the inherited bad debts, traditional soft budget constraints and weak banking regulation, and the coordination problems that arise in an economy with many banks and companies with financial problems (Mitchell, 1998b). Mitchell (1998) points out that if firms in difficulty expect to be rescued by the state in the future, their creditors may also prefer to wait for this rather than take immediate action to liquidate the debtor.

Pelinescu (2013) points out that at the beginning of the transition in Romania there is a tolerance of trade credit arrears by lending companies, which contributes to the expansion of the arrears network in the country's economy. According to Perotti (1993), Pelinescu (2013) assumes that the reason is the collusive behaviour of companies and the voluntary expansion of credit among themselves, despite the knowledge that they will not be paid. Companies expect the government to intervene with a collective bailout if firms threatened by bankruptcy become too much.

These expectations are realized in the applied compensation schemes, bilateral compensation and other compensation schemes implemented in Romania. According to Pelinescu (2013), companies feel tolerance for arrears, demonstrated by the government, so efforts to improve the financial condition of firms by restructuring their operations and improving management have less influence than needed.

According to Schoors and Sonin, creditor passivity also has a negative external effect on incentives for other creditors to be active in collecting their receivables. This external effect is practically intensified when economic agents face problems due to symmetrical shocks such as macroeconomic stabilization or a liquidity crisis. But even with a stable macroeconomic environment, the problem with creditor passivity does not disappear.

The propensity of creditors to be passive is an argument in favour of including an automatic clause ("automatic trigger") in insolvency law in order to make credible the threat of bankruptcy. A counter-argument against the introduction of such a clause is the risk of mass bankruptcy due to the existence of a huge reserve of bad debts in the balance sheets of banks and companies (Mitchell, 1998).

Bonin and Schaffer prove empirically that in Hungary, where, contrary to expectations, there were hard budget constraints, the effect of rigid legislation and the automatic bankruptcy mechanism that has been implemented in the country for 18 months in the

1992-1993 period, further exacerbates the problem of credit contraction and ruins economic activity (Bonin and Schaffer, 1999).

According to Alfandari and Schafer (1996), delayed payments exist because they are a liquidity buffer that is cheaper than, for example, bank loans but is only possible because creditors accept late payments. They distinguish three types of arrears – delayed payments, bad debts and "strategic arrears" or "collusive arrears" according to the terminology used by Perotii (1993). For Alfandari and Schafer (1996) delayed payments and bad debts are two different types of arrears that differ in their nature.

Bad debts are associated with companies experiencing serious financial difficulties. Most of all of these debts of companies in financial distress will not be paid in the short or medium term. Delayed payments are arrears where debtor companies pay later than the agreed term but still pay. They analyze the delayed payments as a stock and as a flow.

The stock of arrears as a result of late payments is generally stable over time because medium-term inflows of arrears (representing new debts that occur but are not paid on time) are generally the same as outflows (they are factually payments of arrears). In the absence of monitoring or loosening of monitoring, delayed payments would become bad debts, but Alfandari and Schafer think that the situation in Russia during the period considered by them is not such. According to them, the total value of trade credit in Russia during the transition period remains more or less at levels that are observed in Western economies. One of the reasons for this is that the companies in the country have learned to apply the basic methods of control and collection of arrears in the first year of transformation of the economy. For confirmation, they interpret World Bank survey results, which, according to their opinion, show that in mid-1994, companies are aware of the importance of credit control and apply the main control methods. This gives them a reason to assume that companies in the country are imposing "hard budget constraints" and that the market imposes financial discipline on businesses. They also analyze the creditor firms' motives for allowing delayed payments under effective monitoring. The most common answer to the question why companies do not take legal action to declare the debtor bankrupt when he delays payment is that the probability of payment of the claim is too low either because the debtor is heavily indebted to other creditors or because other creditors have priority in meeting their claims. Secondly, companies point to the need to support their customers. Alfandari and Schafer (1996) interpret this response as evidence of the creditors' reluctance to lose clients or as a manifestation of altruistic motives in their behaviour. They argue that temporary delays in payments to creditors can serve as a buffer to firms with liquidity problems or other financial difficulties. But they can also be the result of other reasons, for example, that customers can derive ex-post better payment terms from their suppliers.

There is a number of evidence in the literature that tolerance of arrears is a mechanism to deal with debtors' temporary liquidity difficulties. Suppliers provide a type of insurance to customers by providing them with liquidity through a continuous flow of supplies under deferred payment terms. The reason is that vendors are interested in the survival of their customers, especially when their loss is associated with high costs. Cunat (2003) develops a model that suggests that the cost of replacing suppliers and customers is too high. They are

related to the commencement of new business relations and may be both technological in nature and stemming from legal procedures, negotiation costs, exploration, etc.

Suppliers finance their clients even when banks are not willing to lend them. This is done by expanding sales with deferred payment, extending the terms of trade credits or allowing for overdue payments. Delay in debt payments is the main instrument for providing liquidity, which explains the wide spread of arrears. Suppliers tend to forgive debt or extend the term of trade credit when their clients' liquidity problems threaten their own survival. Firms with financial problems generally delay payment of their obligations, but rarely incur monetary penalties or termination of supplies by their business partners (Cunat, 2003). Boissay and Gropp (2007) confirm that trade credit serves to provide financing to firms with difficult access to credit, and also that vendors insure their clients against liquidity problems. As proof of the role of trade credit as a mechanism for providing liquidity insurance, it is assumed that companies continue to source raw materials companies that have not previously fulfilled obligations to them.

Failure to meet trade credit obligations serves to overcome liquidity shocks. Companies who have problems with their debt collection are more prone not to meet their own trade credit obligations, leading to the creation of chains of overdue payments. The results of their analysis show that companies are able to transfer more than a quarter of unexpected liquid shocks. In addition, firms with financing difficulties are more likely to transfer their unexpected liquidity shock by failing to pay their trade credit obligations, as opposed to larger and more liquid companies that have access to external institutional funding.

Short-term financing for companies is mainly provided by short-term bank loans and obligations to suppliers. The choice between these two options is an important element of working capital management (Nenkov, 2008, p. 174, 178).

The analysis of Boissay and Gropp (2007), unlike that of Cunat (2003), is not limited to bilateral supplier-customer relationships, they establish not only mutual but also multilateral insurance and liquidity provision between firms. All companies, including those with difficulty in accessing finance, provide liquidity insurance to their clients as they themselves are insured by their suppliers. Liquid shocks are passed along the trade credit chain until reaching a firm that has access to external, institutional funding that absorbs the shock. By extending the term of credit to clients who do not meet their obligations to them, liquid companies relieve the financial difficulties not only of their clients but also of companies with which they have no direct business relationship by injecting liquidity into the sector. The extension of the terms of trade credits in such cases is conditioned by the desire to provide customers with liquidity. However, in order to determine the optimal term of trade credits, it is necessary to determine the relationship between the extension of the credit terms and the change in the sales of the company, as well as the additional costs of financing the receivables and losses from uncollectible receivables (Aleksandrova, 2007, p. 271).

Liquidity is distributed to the corporate sector along the trade credit chain where it is most needed. Absorbing liquid shocks, large companies with access to institutional funding also prevent the need to liquidate assets.

Suppliers who are interested in maintaining business relationships provide more concessions to financially troubled customers than creditors in competing credit markets (Wilner, 2000).

Suppliers are lenient creditors compared to banks because they have an implied share in the capital of customers and are interested in maintaining a long-term relationship with them. Banks usually have collateral for their claims and have priority in settling claims in case of declaring the debtor bankrupt, making them more likely to resort to liquidation procedures in case of non-payment (Huyghebaert, Van de Gucht and Van Hulle, 2007; Cole, 2010). That is why more risky clients prefer financing from their suppliers, which gives them flexibility in case of financial problems.

Through the renegotiation of debts, suppliers are seeking to protect already-provided loans as well as future profits. In case of insolvency, the creditor and the debtor choose between the following alternatives: court proceedings or renegotiation of the loan where the debtor company continues to operate. Wilner (2000) compares the renegotiation with a Nash game where, in the absence of agreement, both parties suffer losses in the form of lawyer's fees. When the debtor has a small contribution to the creditor's profits, and he is less dependent on the client, the threat of stopping supplies is more creditworthy. In this case, the supplier is willing to make smaller discounts when the debtor has financial problems. The amount of discounts varies depending on the degree of dependence of the supplier on the debtor who has financial problems. But when interest rates rise in the economy, vendors are worrying more about their current profits than about maintaining business relationships and expected future profits. As the risk-free interest rate increases, discounts on renegotiations decrease. Moreover, by reducing the probability of debtors becoming insolvent, renegotiation of debts becomes less likely and therefore reduces discounts offered by suppliers as well as interest rates on trade credits.

A survey by Ivashina and Iverson (2014) also demonstrates the importance of trade relations and the desire to continue trading with troubled debtors for the behaviour of creditors. They pay special attention to trade credit theories that are built on the basis of the relationship between trading partners. Their research is also based on the assertion that modern debt markets allow for intense trading in debts of bankrupt companies.

Ivashina and Iverson (2014) confirm the hypothesis of suppliers' information advantages (Petersen and Rajan, 1997; Smith, 1987). Compared to banking institutions, vendor companies have a better opportunity to diagnose customer status through more frequent visits and receive accurate and timely information from orders and financial decisions of clients. All this helps suppliers to assess the degree of financial distress and the complexity of the potential restructuring process. For this reason, Ivashina and Iverson (2014) expect that creditor firms' decisions to keep or liquidate claims from bankrupt trading partners are related to expected insolvency results, including its duration, recovery rate, and restructuring.

By examining the behaviour of creditors, Ivashina and Iverson (2014) come to the conclusion that suppliers who grant significant amounts of trade credit (measured against their own capacity) have inside information about the borrowers.

They investigate the behaviour of suppliers in bankruptcy of debtors and prove that suppliers likely to have more insider information (suppliers that extend their trade credit more than their capacity) are significantly more prone to sell their receivables when having expectations of a low recovery rate. They also prove that these vendors sell their positions on average four months before less informed suppliers when recovery rates are lower. These results are particularly pronounced in cases where a financially troubled debtor relies heavily on trade credit as a source of funding instead of bank credit or other forms of credit. Generally, non-public companies use significantly more trade credit than public companies.

Ivashina and Iverson (2014) also examine how supplier behaviour and, in particular, decisions to sell receivables depend on the outcome of insolvency proceedings. Because they have an implied share in the business of the debtor company, suppliers are less likely to sell their receivables when the company reorganizes itself as an independent entity. Creditors are more likely to sell their receivables when the debtor is sold in bankruptcy. The conclusion reached is that the suppliers are interested not only in the recovery rates but also in whether the relationship with the debtor company is likely to continue in the future.

Marotta (2001) found that due to legal-institutional factors and, in particular, the ineffective protection of creditors' rights, companies in Italy rarely demand penalties for late payment of trade receivables. Wilner (2000) also points out that the majority of companies do not impose penalties for late payment, and when such penalties are required, their collectibility is less than 50%.

There are also alternative explanations of suppliers' reluctance to impose late payment penalties on their customers. An alternative explanation is, for example, the willingness of suppliers to limit the outflow of positive externalities to other suppliers which are generated by subsidizing the cost of maintaining inventories of their long-term customers (Daripa, Nilsen, 2005).

There are also assertions in the literature that suppliers' financial condition is also important for their behaviour in late payment by customers. For firms who are in a difficult financial situation, it is more difficult to take legal action against debtors and can not take advantage of the threat of termination of future deliveries (Petersen, Rajan, 1997).

Among the factors of creditors' passivity in the literature are often mentioned companies' reluctance to show bad debts in their balance sheets (Schoors, Sonin, 2000; Mitchell, 1998a; Mitchell, 1998; Mitchell, 1999). The propensity of creditor companies to disclose information that affects their debtors can be interpreted in different directions.

Barbosa, Moreira and Novaes (2004) point out, for example, that in the ordinary course of business, suppliers receive information advantages over financial institutions in terms of the creditworthiness of their clients. They also analyze the incentives for suppliers to accurately disclose customer information they have due to the effect of this information on interest rates on bank loans and hence on suppliers' loans. For suppliers who have the opportunity to expand trade credit, a dominant strategy is to present customers as being riskier than they actually are. This would lead to higher interest rates on bank loans, which are a potential source of funding for their clients, and hence an increase in interest rates on trade credits, which are an alternative source of funding. If suppliers have not the opportunity to expand

trade credit, a dominant strategy is to present customers as risk-free. This would lead to an increase in bank credit for their customers and hence an increase in demand for the output they produce. Barbosa, Moreira and Novaes (2004) also point out that bank interest rates are irrelevant in an equilibrium situation where suppliers do not impose interest on credits to their clients.

However, the Barbosa, Moreira and Novaes (2004) interpretation of incentives for creditor companies to disclose information about their clients may be complemented by the fact that disclosure of unfavourable information on debtors' solvency would seriously reduce their ability to obtain funding from a bank, with which they could refinance their overdue liabilities to them, all the more so that banks have advantages in satisfying their debts in bankruptcy of debtors.

Empirical research

For the study of creditor passivity among the non-financial enterprises in the country, data from a national representative empirical sociological survey among 1000 companies was used, which was conducted in the summer of 2015.² The sample is stratified by region, main activity and size of the companies. The survey was conducted using the structured interview method.

In the sample are included companies with different sizes and main activity. The distribution of enterprises by their main activity is presented in Table 1.

The largest is a share of micro-enterprises (with up to 9 employees), which are two-fifths of the surveyed companies (40.5%), and the smallest is a share of large enterprises (250 or more employees) which are one-tenth (10.2%) of the surveyed companies.

The distribution of firms by number of employees is shown in Table 2.

Table 1

Distribution of companies by main activity

| | Number | % |
|--|--------|-------|
| Agriculture, forestry, hunting and fisheries | 46 | 4.6 |
| Industry | 101 | 10.1 |
| Construction | 59 | 5.9 |
| Trade; Vehicle repair | 380 | 38.0 |
| Hotels and restaurants | 78 | 7.8 |
| Transport, storage and messaging | 60 | 6.0 |
| Others | 276 | 27.6 |
| Total | 1000 | 100.0 |

Source: Author calculations.

² The research was carried out by the ESTAT agency within the framework of the project "Improving the quality of education and research in the field of business engineering for building a knowledge-based economy (innovation) and finance", with the financial support of the Operational Program "Development of Human Resources (Contract № BG051PO001-3.3.06-0053), realized by Higher School of Insurance and Finance and Partner Economic Research Institute of the Bulgarian Academy of Sciences

Table 2

Distribution of companies by number of employees

| | Number | Per cent | Cumulative per cent |
|--------------------------|--------|----------|---------------------|
| 1 to 9 employees | 405 | 40.5 | 40.5 |
| from 10 to 49 employees | 222 | 22.2 | 62.7 |
| from 50 to 249 employees | 271 | 27.1 | 89.8 |
| 250 and more employees | 102 | 10.2 | 100.0 |
| Total | 1000 | 100.0 | |

Source: Author calculations.

According to the size of the turnover, the companies in the sample are distributed in the manner presented in Table 3. The issue of the amount of sales revenue is measured on a category scale which allows, to a certain extent, to circumvent the problem of companies' reluctance to disclose accurate information about its financial indicators.

Table 3

Distribution of companies according to the turnover

| Turnover | Number | Valid per cent | Cumulative per cent |
|---------------------------------|--------|----------------|---------------------|
| Up to BGN 100 000 | 297 | 42.7 | 42.7 |
| From BGN 100 001 to 500 000 | 143 | 20.5 | 63.2 |
| From BGN 500 001 to 1 000 000 | 72 | 10.3 | 73.6 |
| From BGN 1 000 001 to 5 000 000 | 92 | 13.2 | 86.8 |
| Over BGN 5 000 000 | 92 | 13.2 | 100.0 |

Source: Author calculations.

The data is processed with the SPSS software product. The nonparametric chi-squared test was used in the study. It is assumed a significance level of 5%.

The lack of a certain approach to reduce the risk of arrears of trade receivables is seen as an indicator of creditor passivity. Creditor's passivity is analyzed in a broader sense, not only as a behaviour of firms in a situation of arrears of a trade receivables but also as omitting the possibility of taking preventive measures to limit the risk of overdue and uncollectible receivables.

None of the companies that indicate that they do not have a certain approach to reduce the risk of arrears of trade receivables does not apply any of the measures outlined in the questionnaire to guard against late payment by customers. The distribution of the actions taken by non-financial enterprises in the country to protect against late payments from customers is presented in Table 4. The negligible rate of responses to taking other actions than those mentioned gives grounds to assume that the measures listed outline exhaustively the protection measures applied by companies in the country.

Table 4

Measures, taken to reduce the risk of overdue receivables

| | Number of answers | Percentage of responses | Percentage of cases |
|---|-------------------|-------------------------|---------------------|
| They do not have a precisely defined approach | 107 | 4.8 | 10.7 |
| Require immediate payment on a purchase | 697 | 31.0 | 69.7 |
| Require an advance payment | 451 | 20.0 | 45.1 |
| Stop supplies for unfair debtors | 315 | 14.0 | 31.5 |
| They require a bank guarantee | 183 | 8.1 | 18.3 |
| They take legal measures to collect overdue receivables | 177 | 7.9 | 17.7 |
| They insure their trade receivables | 93 | 4.1 | 9.3 |
| They impose penalties for overdue payments | 87 | 3.9 | 8.7 |
| Have a department dealing with receivables management | 81 | 3.6 | 8.1 |
| They use the services of a factoring company | 34 | 1.5 | 3.4 |
| They use the services of debt collector firms | 20 | 0.9 | 2.0 |
| Others | 5 | 0.2 | 0.5 |

* Data was processed using the multiple response technique

Source: Author calculations

There is a correlation between the lack of a certain approach against overdue payments and the legal-organizational form of enterprises. The results of the Chi-square test are presented in Table 5.

Table 5

Dependency between the lack of a precisely defined approach against trade receivables overdue and the form of company registration

| | |
|--------------------|-------|
| Sig. | 0.000 |
| Cramer coefficient | 0.176 |

Source: Author calculations

However, the results have to be accepted with some reservations as not all the requirements of the method have been met.

The different legal organizational forms of the business are related to differences in the organization of the management, the responsibilities and the risk that are assumed, the taxation, the possibilities for attracting capital, etc.

Through the Chi-square test, the relationship between the main activity of the firms and the lack of certain approach for protection against overdue receivables was examined. A weak, statistically significant relationship is established. The results of the Chi-square test are shown in Table 7.

Table 6

Two-dimensional distribution according to the lack of a precisely defined approach to protection against arrears and the form of registration

| | They do not have a certain approach |
|--|-------------------------------------|
| Sole trader | 33 17.2% 30.8% 3.3% |
| LTD | 53 7.9% 49.5% 5.3% |
| General partnership | 0 0.0% 0.0% 0.0% |
| Joint-stock company, Single-member joint-stock company | 8 9.3% 7.5% 0.8% |
| Cooperative | 5 22.7% 4.7% 0.5% |
| Others | 8 33.3% 7.5% 0.8% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms.

Source: Author calculations

Table 7

Relationship between main business activities of firms and lack of a certain approach against overdue trade receivables

| | |
|--------------------|-------|
| Sig. | 0.019 |
| Cramer coefficient | 0.123 |

Source: Author calculations

The characteristics of the industry concerned, such as the degree of competition, the nature of customer relationships, established business practices and customs, the specifics of the production, the extent of the sector's risk, the differences in access to finance, are related to the ability of companies to implement different credit risk management actions. The distribution of sampled enterprises by main activity and the lack of certain approach against overdue trade receivables is shown in Table 8.

Table 8

Distribution of sampled enterprises by main activity and the lack of certain approach against overdue trade receivables (%)

| | Percentage of companies in the sector that do not have a specific approach to protecting against arrears |
|--|--|
| Agriculture, forestry, hunting and fisheries | 15.2 |
| Industry | 6.9 |
| Construction | 8.5 |
| Trade; Vehicle repair | 7.1 |
| Hotels and restaurants | 14.1 |
| Transport, storage and messaging | 13.3 |
| Others | 15.2 |

Source: Author calculations

Significantly lower are the percentages of firms that do not have a certain approach for protection against overdue receivables in the sectors Industry (6.9%), Trade; Repair of motor vehicles (7.1%) and Construction (8,5%). The highest is the percentage of companies showing passivity as creditors from the sector "Agriculture, Forestry, Hunting and Fisheries" (15.2%).

A likely explanation can be found in the size of companies with different core activities, which predetermines their market positions, the quality of their management and their financial capabilities. There is a statistically significant correlation between the type of core business activity and the indicators of firms size – the number of persons employed and the turnover.

Table 9

Dependence between core business activity and enterprise size indicators

| | Number of employees | Turnover |
|--------------------|---------------------|----------|
| Sig. | 0.000 | 0.000 |
| Cramer coefficient | 0.255 | 0.244 |

Source: Author calculations

However, the results for the dependence between the main activity of the firms and the size of their turnover should be accepted with some reservations, as all the requirements of the Che-square method are not met.

The two-dimensional distribution of companies by their main activity and the number of employees is presented in Table 10.

Table 11 shows the two-dimensional distribution of the companies in the sample according to their main activity and the turnover.

Table 10

Distribution of companies by main activity and number of employees

| | 1 to 9 employees | from 10 to 49 employees | from 50 to 249 employees | 250 and more employees |
|--|--------------------------------|------------------------------|------------------------------|------------------------------|
| Agriculture, forestry, hunting and fisheries | 16 34.8% 4.0% 1.6% | 14 30.4% 6.3% 1.4% | 14 30.4% 5.2% 1.4% | 2 4.3% 2.0% 0.2% |
| Industry | 7 6.9% 1.7% 0.7% | 17 16.8% 7.7% 1.7% | 39 38.6% 14.4% 3.9% | 38 37.6% 37.3% 3.8% |
| Construction | 8 13.6% 2.0% 0.8% | 9 15.3% 4.1% 0.9% | 30 50.8% 11.1% 3.0% | 12 20.3% 11.8% 1.2% |
| Trade; Vehicle repair | 191 50.3% 47.2% 19.1% | 81 21.3% 36.5% 8.1% | 88 23.2% 32.5% 8.8% | 20 5.3% 19.6% 2.0% |
| Hotels and restaurants | 24 30.8% 5.9% 2.4% | 22 28.2% 9.9% 2.2% | 29 37.2% 10.7% 2.9% | 3 3.8% 2.9% 0.3% |
| Transport, storage and messaging | 16 26.7% 4.0% 1.6% | 18 30.0% 8.1% 1.8% | 18 30.0% 6.6% 1.8% | 8 13.3% 7.8% 0.8% |
| Others | 143 51.8% 35.3% 14.3% | 61 22.1% 27.5% 6.1% | 53 19.2% 19.6% 5.3% | 19 6.9% 18.6% 1.9% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) Percentage by line; 3) percentage per column; 4) Percentage of all businesses

Source: Author calculations

For the sector "Trade; Vehicle repair" predominate micro and small businesses. They are characterized by lower turnover and a much higher number of transactions and customers, as well as a lower value of receivables from individual debtors. This reduces their dependence on clients by enabling them to apply various protection measures against arrears. At the same time, the larger number of customers is conducive to the diversification and reduction of credit risk. In addition, companies in the trade sector have the ability to hedge risk more easily by matching trade receivables and payables, although they are reluctant to admit that in the event of customer arrears, they may in turn delay payments to suppliers.

Table 11

Distribution of companies by main activity and turnover in BGN

| | Up to BGN 100 000 | From BGN 100 001 to 500 000 | From BGN 500 001 to 1 000 000 | From BGN 1 000 001 to 5 000 000 | Over BGN 5 000 000 |
|---|--------------------------------|-----------------------------------|-------------------------------------|---------------------------------------|------------------------------|
| Agriculture, forestry, hunting and fisheries | 6 20.7% 2.0% 0.9% | 6 20.7% 4.2% 0.9% | 7 24.1% 9.7% 1.0% | 8 27.6% 8.7% 1.1% | 2 6.9% 2.2% 0.3% |
| Industry | 4 6.1% 1.3% 0.6% | 8 12.1% 5.6% 1.1% | 7 10.6% 9.7% 1.0% | 18 27.3% 19.6% 2.6% | 29 43.9% 31.5% 4.2% |
| Construction | 6 16.2% 2.0% 0.9% | 4 10.8% 2.8% 0.6% | 6 16.2% 8.3% 0.9% | 11 29.7% 12.0% 1.6% | 10 27.0% 10.9% 1.4% |
| Trade; Vehicle repair | 139 49.3% 46.8% 20.0% | 61 21.6% 42.7% 8.8% | 25 8.9% 34.7% 3.6% | 26 9.2% 28.3% 3.7% | 31 11.0% 33.7% 4.5% |
| Hotels and restaurants | 22 43.1% 7.4% 3.2% | 11 21.6% 7.7% 1.6% | 9 17.6% 12.5% 1.3% | 6 11.8% 6.5% 0.9% | 3 5.9% 3.3% 0.4% |
| Transport, storage and messaging | 6 18.8% 2.0% 0.9% | 11 34.4% 7.7% 1.6% | 1 3.1% 1.4% 0.1% | 7 21.9% 7.6% 1.0% | 7 21.9% 7.6% 1.0% |
| Others | 114 57.3% 38.4% 16.4% | 42 21.1% 29.4% 6.0% | 17 8.5% 23.6% 2.4% | 16 8.0% 17.4% 2.3% | 10 5.0% 10.9% 1.4% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

The χ -square analysis demonstrates a statistically significant correlation between the size of the firms according to the number of employees and the lack of a certain approach to guard against the risk of delaying the collection of receivables.

The distribution of enterprises, according to the lack of a precisely defined approach to protection against arrears and their size by the "number of employees" criterion, is presented in Table 13.

Table 12

Dependence between the lack of a precisely defined approach to guard against the risk of delays in the collection of receivables and the size of firms according to the "number of employees" criterion

| | They do not have a precisely defined approach |
|--------------------|---|
| Sig. | 0.000 |
| Cramer coefficient | 0.144 |

Source: Author calculations

Table 13

Distribution of companies according to the lack of a precisely defined approach for protection against overdue receivables and their size by the criterion "number of persons employed"

| | |
|--------------------------|------------------------------|
| 1 to 9 employees | 65 16.0% 60.7% 6.5% |
| from 10 to 49 employees | 15 6.8% 14.0% 1.5% |
| from 50 to 249 employees | 21 7.7% 19.6% 2.1% |
| 250 and more employees | 6 5.9% 5.6% 0.6% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

With the increase in the size of companies, the share of those, who do not have a certain approach to reducing the risk of overdue receivables, decreases. Larger companies, ceteris paribus, have higher management quality and stronger market positions and are not worried about losing customers when taking action against arrears.

The dependence between the companies' passivity as creditors and their size is also confirmed by the correlation between the lack of a precisely defined approach to reducing overdue receivables and turnover.

Table 14

Dependence between the lack of a precisely defined approach to reduce the risk of overdue receivables and the turnover of companies

| | |
|--------------------|-------|
| Sig. | 0.000 |
| Cramer coefficient | 0.187 |

Source: Author calculations

The two-dimensional distribution of the companies according to the lack of a precisely defined approach to reducing the risk of overdue receivables and their turnover is shown in Table 15.

Table 15

Distribution of firms according to the lack of a precisely defined approach to reduce the risk of overdue receivables and their turnover

| | |
|---------------------------------|------------------------------|
| Up to BGN 100 000 | 54 18.2% 68.4% 7.8% |
| From BGN 100 001 to 500 000 | 9 6.3% 11.4% 1.3% |
| From BGN 500 001 to 1 000 000 | 4 5.6% 5.1% 0.6% |
| From BGN 1 000 001 to 5 000 000 | 7 7.6% 8.9% 1.0% |
| Over BGN 5 000 000 | 5 5.4% 6.3% 0.7% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: *Author calculations*

Again it can be seen that with the increase of the size of the companies, the share of those who exhibit creditor passivity decreases. Apart from the size of the companies, the turnover value is also an indicator of their financial capabilities and market positions. The importance of companies' financial standing for their behaviour like creditors is also confirmed by the relationship with value-added growth.

Table 16

Dependence between the lack of a precisely defined approach to protection against arrears of trade receivables and the increase in value-added in firms

| | |
|--------------------|-------|
| Sig. | 0.000 |
| Cramer coefficient | 0.152 |

Source: *Author calculations*

Table 17 shows the two-dimensional distribution of the companies in the sample according to the lack of a precisely defined approach to protection against overdue receivables and the increase in value-added in firms.

Table 17

Two-dimensional distribution according to the lack of a precisely defined approach to protection against overdue receivables and an increase in value-added in firms

| Degree of importance | Increasing value-added |
|----------------------------------|------------------------|
| great importance | 8 |
| | 3.6% |
| | 7.5% |
| | 0.8% |
| some importance | 29 |
| | 9.6% |
| | 27.1% |
| | 2.9% |
| does not matter | 18 |
| | 11.2% |
| | 16.8% |
| | 1.8% |
| It does not apply to the company | 52 |
| | 16.5% |
| | 48.6% |
| | 5.2% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

Companies with good financial management, where value-added growth has a large or at least somewhat significant importance on their development, are less likely to show creditor passivity.

The dependencies between companies' passivity as creditors on the one hand and their turnover and value-added, on the other hand, can be interpreted in the opposite direction. The active management of the risk of overdue receivables leads to a reduction in the problem of late payment by customers. This leads to an acceleration of capital conversion, more efficient use of resources, increased production and sales, and value-added in the company.

The results of the survey also show that companies that have successfully invested in expanding their production capacity are less likely to exhibit creditor passivity (Table 18).

Table 18

Dependence between the lack of a precisely defined approach for protection against overdue receivables and expansion of the production capacity of the companies

| | |
|--------------------|-------|
| Sig. | 0.004 |
| Cramer coefficient | 0.116 |

Source: Author calculations

Two-dimensional distribution according to the lack of a precisely defined approach to protection against overdue receivables and the expansion of production capacity is shown in Table 19.

Table 19

Two-dimensional distribution according to the lack of a precisely defined approach to protection against overdue receivables and the expansion of production capacity

| Degree of importance | Expansion of production capacity |
|----------------------------------|----------------------------------|
| great importance | 16 |
| | 5.5% |
| | 15.0% |
| | 1.6% |
| some importance | 30 |
| | 12.0% |
| | 28.0% |
| | 3.0% |
| does not matter | 13 |
| | 10.2% |
| | 12.1% |
| | 1.3% |
| It does not apply to the company | 48 |
| | 14.5% |
| | 44.9% |
| | 4.8% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

Expansion of production capacity, *ceteris paribus*, means higher fixed costs and business risk, which also require more active risk management of overdue receivables.

Expansion of production capacity is also an indication that companies have no difficulty in realizing their production, have stronger market positions and may impose different measures to prevent overdue receivables without fear of losing customers.

The market positions of the companies are predominantly determined by their competitiveness. Table 20 presents dependencies between indicators on the competitiveness of firms and the lack of a certain approach for protection against trade credit arrears.

Table 20

Dependence between the lack of a precisely defined approach to protection against overdue receivables and actions Indicators on the competitiveness of firms

| | Sig. | Cramer coefficient |
|--|-------|--------------------|
| Improving the marketing of products and services | 0.000 | 0.164 |
| Introducing quality standards | 0.001 | 0.127 |

Source: Author calculations

The two-dimensional distribution of the companies in the sample, according to the lack of a precisely defined approach to protection against past due receivables and actions, which are indicators for their competitiveness, is presented in Table 21.

Table 21

Two-dimensional distribution according to the lack of a precisely defined approach to protection against overdue receivables and actions Indicators for the competitiveness of the companies

| Degree of importance | Improving the marketing of products and services | Introducing quality standards |
|----------------------------------|--|-------------------------------|
| great importance | 29 | 23 |
| | 6.9% | 7.5% |
| | 27.1% | 21.5% |
| | 2.9% | 2.3% |
| some importance | 36 | 22 |
| | 10.6% | 8.6% |
| | 33.6% | 20.6% |
| | 3.6% | 2.2% |
| does not matter | 9 | 12 |
| | 9.7% | 8.8% |
| | 8.4% | 11.2% |
| | 0.9% | 1.2% |
| It does not apply to the company | 33 | 50 |
| | 22.1% | 16.7% |
| | 30.8% | 46.7% |
| | 3.3% | 5.0% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

The data in the table shows that companies in which improving product and service marketing and introduction of quality standards are successful and are of great importance for their development are more active in managing the risk of overdue receivables from customers. The higher quality of the products offered and the improvement of their marketing increase demand and enable companies to negotiate more advantageous and safer payment terms in commercial transactions.

The percentage of firms lacking a specific approach against overdue receivables is greater when actions like improving product and service marketing and implementing quality standards are not relevant to their development or do not concern the company at all.

The market power of companies also depends on how wide the market is. A wider market, *ceteris paribus*, also means a larger number of customers, enabling companies to apply various measures to reduce the risk of overdue payments without fear of adverse consequences such as loss of customers and market share.

The two-dimensional distribution of the surveyed companies, according to the lack of a precisely defined approach to protection against overdue receivables and indicators for expanding their markets, is presented in Table 23.

Table 22
Dependence between the lack of a precisely defined approach to protection against overdue receivables and actions Indicators for expanding markets

| | Sig. | Cramer coefficient |
|---|-------|--------------------|
| Penetration of new markets in the country | 0,001 | 0,127 |
| Penetration of new markets in Europe | 0,019 | 0,100 |
| Penetration of new markets outside Europe | 0,003 | 0,119 |
| Increase market share | 0,000 | 0,139 |

Source: Author calculations

Table 23
Two-dimensional distribution according to lack of a precisely defined approach to protection against overdue receivables and indicators for expanding markets

| Degree of importance | Penetration of new markets in the country | Penetration of new markets in Europe | Penetration of new markets outside Europe | Increase market share |
|----------------------------------|---|--------------------------------------|---|-----------------------|
| great importance | 23 | 8 | 3 | 19 |
| | 6.1% | 4.4% | 2.5% | 6.0% |
| | 21.5% | 7.5% | 2.8% | 17.8% |
| | 2.3% | 0.8% | 0.3% | 1.9% |
| some importance | 27 | 13 | 6 | 36 |
| | 11.3% | 10.6% | 6.0% | 9.7% |
| | 25.2% | 12.1% | 5.6% | 33.6% |
| | 2.7% | 1.3% | 0.6% | 3.6% |
| does not matter | 23 | 25 | 27 | 20 |
| | 13.8% | 11.1% | 11.2% | 14.8% |
| | 21.5% | 23.4% | 25.2% | 18.7% |
| | 2.3% | 2.5% | 2.7% | 2.0% |
| It does not apply to the company | 34 | 61 | 71 | 32 |
| | 15.8% | 13.0% | 13.1% | 17.8% |
| | 31.8% | 57.0% | 66.4% | 29.9% |
| | 3.4% | 6.1% | 7.1% | 3.2% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

In general, the penetration of new markets is accompanied by a higher risk in credit sales due to the lack of sufficient information for new customers. This risk is even greater when it comes to foreign markets due to the specific risks accompanying foreign trade. The ability of companies to manage credit risk is related to the opportunities for their development and expansion in the markets. Creditor passivity is more typical for companies where penetration into new markets and increasing market share are irrelevant to their development or do not even concern them. Firms in which new market penetration and market share increase are successful and have great or even some importance for their development have stronger market positions and better financial capabilities to implement different credit risk management measures.

For companies' market positions, their image also matters. There is a statistically significant correlation between the lack of a precisely defined approach against overdue trade receivables and the way the company maintains its image in the public domain.

Table 24

Dependence between the lack of a precisely defined approach to protection against overdue receivables and the way the firm maintains its image in the public domain

| | |
|--------------------|-------|
| Sig. | 0.005 |
| Cramer coefficient | 0.113 |

Source: Author calculations

The two-dimensional distribution of the companies in the sample is presented in Table 25.

Table 25

Two-dimensional distribution according to lack of a precisely defined approach to protection against overdue receivables and the way the company maintains its image in the public domain

| | They point out that they do not have a precisely defined approach | They do not point out that they do not have a precisely defined approach |
|---|---|--|
| They have their own PR department (public relations specialist) | 7 6.5% 6.6% 0.7% | 100 93.5% 11.2% 10.0% |
| They use PR agency services | 6 11.3% 5.7% 0.6% | 47 88.7% 5.3% 4.7% |
| They participate in specialized exhibitions, forums | 6 3.8% 5.7% 0.6% | 151 96.2% 16.9% 15.1% |
| The image of the company is not supported by a targeted policy and measures | 87 12.8% 82.1% 8.7% | 595 87.2% 66.6% 59.6% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations.

The percentage of companies showing creditor passivity is the largest among firms that do not maintain their image with targeted policies and measures.

The results of the survey also reveal the importance of factors that are related to the motivation of the employees for the creditor's passivity. It has been established that improving safety and health conditions at work, which *ceteris paribus* implies higher motivation for the work of employees (and hence for better company performance) is related to the lack of a certain approach to reduce the risk of overdue receivables.

The two-dimensional distribution of firms in the sample is presented in Table 27.

Table 26
Dependence between the lack of a precisely defined approach to protection against overdue receivables and the importance for the company's development over the last three years of improving safety and health conditions at work

| | |
|--------------------|-------|
| Sig. | 0.010 |
| Cramer coefficient | 0.107 |

Source: Author calculations

Table 27
Two-dimensional distribution according to the lack of a precisely defined approach for protection against overdue receivables and the importance of improving safety and health conditions at work for the development of the company over the last three years

| Degree of importance | They point out that they do not have a precisely defined approach | They do not point out that they do not have a precisely defined approach |
|----------------------------------|---|--|
| great importance | 41 | 417 |
| | 9.0% | 91.0% |
| | 38.3% | 46.7% |
| | 4.1% | 41.7% |
| some importance | 27 | 277 |
| | 8.9% | 91.1% |
| | 25.2% | 31.0% |
| | 2.7% | 27.7% |
| does not matter | 15 | 90 |
| | 14.3% | 85.7% |
| | 14.0% | 10.1% |
| | 1.5% | 9.0% |
| It does not apply to the company | 24 | 109 |
| | 18.0% | 82.0% |
| | 22.4% | 12.2% |
| | 2.4% | 10.9% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

Improving safety and health conditions at work is a manifestation of corporate social responsibility, which has important implications for improving the competitiveness of companies and achieving sustainable growth (Димитров, Чипев, Керемидчиев, Бакърджиева, 2014).

Table 28
Dependence between the lack of a precisely defined approach to protection against overdue receivables and the extent to which the company's internal communication system motivates employees to perform their duties

| | |
|--------------------|-------|
| Sig. | 0.000 |
| Cramer coefficient | 0.219 |

Source: Author calculations

There is also a correlation between the passivity of the companies as creditors and the extent to which the internal communication system in the company motivates employees to perform their duties.

The two-dimensional distribution of the companies is presented in Table 29.

Table 29

Two-dimensional distribution according to the lack of a precisely defined approach for protection against overdue receivables and the extent to which the internal communication system in the company motivates the employees to perform their duties

| | They point out that they do not have a precisely defined approach | They do not point out that they do not have a precisely defined approach |
|-------------------------|---|--|
| Definitely yes | 35 7.5% 41.2% 3.8% | 431 92.5% 52.2% 47.4% |
| Rather yes | 21 7.0% 24.7% 2.3% | 280 93.0% 33.9% 30.8% |
| As much yes, as much no | 13 13.1% 15.3% 1.4% | 86 86.9% 10.4% 9.5% |
| Rather no | 10 35.7% 11.8% 1.1% | 18 64.3% 2.2% 2.0% |
| Definitely not | 6 37.5% 7.1% 0.7% | 10 62.5% 1.2% 1.1% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

The percentage of respondents that do not have a precisely defined approach against overdue receivables is higher for companies where the internal communication system does not sufficiently motivate employees to perform their duties. The importance of employees' motivation, interpersonal relationships, and existing values in firms is also revealed by the established dependence between the passivity of firms as creditors and assessment of respondents about the impact of corporate culture on firms economic performance.

The two-dimensional distribution of firms is presented in Table 31.

Table 30

Dependence between the lack of a precisely defined approach to protection against overdue receivables and the assessment of respondents about the influence of corporate culture on firms economic performance

| | |
|--------------------|-------|
| Sig. | 0.004 |
| Cramer coefficient | 0.135 |

Source: Author calculations

Table 31

Two-dimensional distribution according to the lack of a precisely defined approach for protection against overdue receivables and the assessment of the respondents about the influence of the corporate culture of the company on its economic performance

| | They point out that they do not have a precisely defined approach | They do not point out that they do not have a precisely defined approach |
|-------------------------|---|--|
| Definitely yes | 16 | 286 |
| | 5.3% | 94.7% |
| | 20.3% | 36.7% |
| | 1.9% | 33.3% |
| Rather yes | 37 | 315 |
| | 10.5% | 89.5% |
| | 46.8% | 40.4% |
| | 4.3% | 36.7% |
| As much yes, as much no | 14 | 130 |
| | 9.7% | 90.3% |
| | 17.7% | 16.7% |
| | 1.6% | 15.1% |
| Rather no | 6 | 31 |
| | 16.2% | 83.8% |
| | 7.6% | 4.0% |
| | 0.7% | 3.6% |
| Definitely not | 6 | 18 |
| | 25.0% | 75.0% |
| | 7.6% | 2.3% |
| | 0.7% | 2.1% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

The confirmation of the above statement for the importance of the motivation of the employed is also the dependence between the lack of a well-established approach to protection against overdue receivables and the introduction of new methods and business practices for the allocation of work obligations and decision-making mechanisms (system for allocation of responsibilities in the team, departmental restructuring, education/training programs, etc.).

The results of the chi-square analysis are presented in Table 32.

Table 32

Dependence between the lack of a precisely defined approach to protection against overdue receivables and whether the company has introduced new methods and business practices for the allocation of work obligations and decision-making mechanisms over the last three years (system for allocation of responsibilities in the team, departmental restructuring, education/training programs, etc.)

| | |
|--------------------|-------|
| Sig. | 0.000 |
| Cramer coefficient | 0.135 |

Source: Author calculations

The two-dimensional distribution of firms in the sample by both criteria is presented in Table 33.

Table 33

Two-dimensional distribution according to the lack of a precisely defined approach to protection against overdue receivables and whether new methods and business practices for the allocation of work obligations and decision-making mechanisms have been introduced in the company over the last three years (system for allocation of responsibilities in the team, departmental restructuring, education/training programs, etc.)

| | They point out that they do not have a precisely defined approach |
|---|---|
| New methods and business practices for the allocation of work obligations and decision-making mechanisms have been introduced | 29 |
| | 6.6% |
| | 34.1% |
| | 3.6% |
| New methods and business practices for the allocation of work obligations and decision-making mechanisms have not been introduced | 56 |
| | 14.9% |
| | 65.9% |
| | 6.9% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

The percentage of companies that show creditor passivity and have introduced new methods and business practices for allocation of work obligations and new decision-making mechanisms over the past three years (6.6%) is significantly lower than the percentage of companies that also show creditor passivity, but have not introduced such new methods and business practices (14.9%). In addition, the majority of companies (65.9%) lacking a precisely defined approach to protection against overdue receivables have not introduced new methods and business practices for allocating work obligations and decision-making mechanisms.

But besides the importance of the motivation of the employees in the company, this dependence also testifies to the role of the innovation activity of the enterprise. The role of the innovation activity of the enterprise is also confirmed by other dependencies. Table 34

presents the results of the Chi-square analysis of the link between the passivity of firms as creditors and the investment over the last three years in specialized training in the field of innovation.

Table 34

Dependence between the lack of a precisely defined approach to protection against overdue receivables and investment over the last three years in specialized innovation training (internal or external staff training aimed at developing and/or implementing innovations)

| | |
|--------------------|-------|
| Sig. | 0.001 |
| Cramer coefficient | 0.106 |

Source: Author calculations

The two-dimensional distribution of firms in the sample by both criteria is presented in Table 35.

Table 35

Two-dimensional distribution according to the lack of a precisely defined approach against overdue receivables and investing over the last three years in specialized innovationn training (internal or external staff training aimed at developing and/or implementing innovations)

| | They point out that they do not have a precisely defined approach |
|------------------------|---|
| They have invested | 12 |
| | 4.9% |
| | 11.2% |
| | 1.2% |
| They have not invested | 95 |
| | 12.5% |
| | 88.8% |
| | 9.5% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

In line with the above assertions, there is also a correlation between the lack of a precisely defined approach to protection against overdue receivables and the introduction over the last three years of new methods and business practices for regulating relationships with other companies/organizations (alliances, partnerships, subcontractors, etc.).

Table 36

Dependence between the lack of a precisely defined approach to protection against overdue receivables and the introduction over the last three years of new methods and business practices for regulating relationships with other companies/organizations (alliances, partnerships, subcontractors, etc.)

| | |
|--------------------|-------|
| Sig. | 0.000 |
| Cramer coefficient | 0.135 |

Source: Author calculations

The two-dimensional distribution of firms in the sample by both criteria is presented in Table 37.

Table 37

Two-dimensional distribution according to the lack of a precisely defined approach to protection against overdue receivables and the introduction over the last three years of new methods and business practices for regulating the relationships with other companies/organizations (alliances, partnerships, subcontractors, etc.)

| | They point out that they do not have a precisely defined approach |
|--------------------------|---|
| They have introduced | 28 |
| | 6.6% |
| | 33.7% |
| | 3.5% |
| They have not introduced | 55 |
| | 14.8% |
| | 66.3% |
| | 6.9% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

The results presented in Table 38 confirm the relationship between creditor passivity and innovation activity. Investing in research to create new products/services for the market is highly risky, accompanied by a relatively longer recovery period for invested funds, and requires a longer horizon of planning and strategic business management. All this implies sufficient financial capacity to provide the necessary funding through internal or borrowed funds and higher quality management.

Table 38

Dependence between the lack of a precisely defined approach to protection against overdue receivables and the assessment of firms to what extent business in the country is interested in investing in scientific developments in order to create new products/services for the market

| | |
|--------------------|-------|
| Sig. | 0.002 |
| Cramer coefficient | 0.137 |

Source: Author calculations

The two-dimensional distribution of firms in the sample by both criteria is presented in Table 39.

The percentage of companies that firmly believe that firms in the country are interested in investing in research to create new products/services and show passivity in their behaviour as creditors is negligible.

Dependencies also arise between the passivity of companies as creditors and their assessment of the conditions for the development of innovation activity in the country.

Companies that consider the conditions for innovation activity in the country as more favourable are more active in the management of credit risk.

Table 39

Two-dimensional distribution according to the lack of a precisely defined approach for protection against overdue receivables and the assessment of firms to what extent the business in the country is interested in investing in scientific developments in order to create new products/services for the market

| | They point out that they do not have a precisely defined approach |
|-------------------------|---|
| Definitely yes | 1 1.0% |
| | 1.1% |
| | 0.1% |
| | |
| Rather yes | 19 7.9% |
| | 21.8% |
| | 2.2% |
| | |
| As much yes, as much no | 22 10.2% |
| | 25.3% |
| | 2.5% |
| | |
| Rather no | 31 14.6% |
| | 35.6% |
| | 3.5% |
| | |
| Definitely not | 14 12.7% |
| | 16.1% |
| | 1.6% |
| | |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

Table 40

Dependencies between the lack of a certain approach to protection against the risk of overdue receivables and the companies' assessment of the conditions for the development of innovation activity in the country

| | Sig. | Cramer coefficient |
|---|-------|--------------------|
| Assessment of firms about the impact of economic risk on innovation activity in the country | 0.000 | 0.184 |
| Assessment of firms about the impact of sources of financing innovative activities on innovation in the country | 0.003 | 0.127 |
| Assessment of firms about the impact of consumer interest in manufactured products and services on innovation activity in the country | 0.031 | 0.104 |
| Assessment of firms about the impact of qualified personnel on innovation activity in the country | 0.048 | 0.098 |

Source: Author calculations

Table 41

Two-dimensional distribution according to the lack of a precisely defined approach for protection against overdue receivables and the assessment of the companies for the conditions for the development of the innovation activity in the country

| | Assessment of firms about the impact of economic risk on innovation activity in the country | Assessment of firms about the impact of sources of financing innovative activities on innovation in the country | Assessment of firms about the impact of consumer interest in manufactured products and services on innovation activity in the country | Assessment of firms about the impact of qualified personnel on innovation activity in the country |
|---------------------------|---|---|---|---|
| Helps significantly | 6 7.1% 5.7% 0.6% | 32 6.7% 30.2% 3.2% | 39 8.2% 36.8% 3.9% | 60 9.0% 56.6% 6.1% |
| Helps to some extent | 28 21.2% 26.7% 2.8% | 35 14.4% 33.0% 3.5% | 36 11.3% 34.0% 3.6% | 31 14.2% 29.2% 3.1% |
| Does not affect | 22 19.3% 21.0% 2.2% | 17 13.1% 16.0% 1.7% | 19 14.4% 17.9% 1.9% | 9 11.5% 8.5% 0.9% |
| It hinders to some extent | 38 8.0% 36.2% 3.8% | 16 14.8% 15.1% 1.6% | 11 19.6% 10.4% 1.1% | 6 24.0% 5.7% 0.6% |
| It is a major obstacle | 11 5.9% 10.5% 1.1% | 6 18.2% 5.7% 0.6% | 1 25.0% 0.9% 0.1% | 0 0.0% 0.0% 0.0% |

* The numbers in each cell in the table show respectively: 1) number of companies; 2) percentage by line; 3) percentage per column; 4) Percentage of all firms

Source: Author calculations

The last two dependencies listed in the table must be assumed with some conditionality, as all the requirements of the Chi-square method are not met.

The two-dimensional distributions of the enterprises surveyed, according to the lack of a precisely defined approach for protection against overdue receivables and their assessment of the conditions for the development of innovation activity in the country, are shown in Table 41.

Conclusion

The results of the survey reveal that a significant part of the companies (little more than one-tenth of respondents) do not have a precisely defined approach to reduce the risk of overdue receivables. There is also a low spread and a relatively narrow scope of the applied measures against delayed payments by customers. This indicates weaknesses in the management of the risk associated with the collection of trade receivables within the agreed timeframe.

On the whole, it can be concluded that the share of firms lacking a precisely defined approach to reducing the risk of overdue receivables is higher in enterprises with lower turnover rates, with lower value-added, with a lower number of employees, operating in sectors with lower entry barriers, firms that have failed to expand their markets and their production capacity in recent years and are characterized by weak innovation activity.

Outlining the profile of companies displaying passivity as creditors contributes to clarifying the internal for firms determinants of their behaviour. The statistically significant links found in the survey testify to the role of the relative market power of the firms in forming their behaviour in credit risk management. The differences in the market power of firms, the fear of deterioration in customer relations, and the loss of market share in taking measures against payment arrears are among the main determinants of the creditors' passivity. The insufficient motivation of the employees, which also affects the quality of the offered production and the competitiveness of the companies, is among the factors determining the market power of the enterprises.

The reasons for creditor passivity can be sought in poor management quality, which is manifested in ignorance of the possibilities for protection against overdue receivables, underestimation of the problem of the delay in the collection of receivables and weaknesses in managing the motivation of the employees with all the resulting negative consequences for companies.

The established dependencies between the companies' passivity as creditors and their innovation activity, the peculiarities of the corporate culture, and in particular the maintenance of the image of the company in the public space, the management of the motivation of the employees through improvement of the safety and working conditions, the care of building long-term relationship with business partners through the introduction of new methods and business practices for regulating the relationships with other companies (organizations) also testify to the importance of the quality of management, and in particular the role of the existence of a comprehensive vision for the company's development.

Although the application of measures against the arrears of trade receivables creates a risks of losing market share, creditors passivity is a prerequisite for extending the problem of overdue inter-company liabilities with all the negative consequences of this, including the risk of insolvency. The most unfavourable behaviour for companies is the passivity that pushes them into a spiral of bad debts. Effective credit risk management is a prerequisite for financial stability, which in turn leads to strengthening the market power of businesses and creates the opportunity to negotiate more advantageous payment terms in commercial

transactions. Companies that are not passive creditors have better financial performance, allowing them to apply different measures against overdue receivables.

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