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Insurance in the process of financial risk management in enterprise activity

This publication has a form of a methodological report. Its aim is to present the methodological assumptions and conclusions arising from selected works on the use of insurance and guarantees in minimising financial risk resulting from trade credit or sudden interruptions in enterprise activity (business interruptions). The author, beginning his own research in this area, analyses the goals defined by particular researchers, the proposed hypotheses, adjustment of research methods, specificity of surveyed communities and attractiveness of obtained results both from the scientific and commercial perspective. In the future, he intends to use the best research practices implemented by other scientists taking up this subject to conduct his own research on economic entities of the Polish market. The publication was inspired by the dynamic development of insurance products of this type observed in business practice, including the Polish market, and by a deficit of scientific research and publications which would identify unequivocally the relationship between the use of such financial instruments and the level of financial risk, results of companies, or bankruptcy risk.

Keywords: financial risk, insurance and guarantees, risk management.

Introduction

Contemporary enterprises operate in the turbulent environment which is the source of numerous types of risk of various intensity at different times. Due to the nature of this paper, we will limit our considerations only to those risks which stem from not paying for delivered goods or performed services. They result from deferred payment terms in trade transactions, or from a break in operations, caused by usually random occurrences which influence negatively the finances of an enterprise. The goal of this publication is to present methodological assumptions and final conclusions drawn from the research presented in some selected literature from around the world. In order to introduce the reader to the analysed subject, an attempt was made to characterise various areas of financial risk appearing in enterprises nowadays, as well as the tendencies visible in the Polish market for insurance products used to optimise the discussed areas of risk.

1. The analysed areas of financial risk in the operations of an enterprise

The issue of risk in economic activity may be the subject of research focusing on its causes as well as effects. Both approaches are justified and not mutually exclusive. Their combination as early as at the identification stage is the first step towards controlling and effectively managing the effects of risk realisation, which may be identified in various areas of enterprise operations, selected on the basis of numerous premises. The conducted considerations will be limited to those types of financial risks which threaten the contemporary enterprises and which may be effectively secured by means of trade credit insurance and business interruption insurance (loss of profit insurance). These risks include credit risk being the consequence of non-payment for goods sold or services performed by the contractor, and the risk of lost benefits through limitation or interruption of business activity caused by fortuitous event or other external factors. In extreme cases, the realisation of these risks may lead to loss of solvency and even to bankruptcy. The structure of bankruptcies according to legal forms of enterprises in Poland in the period of 2010–2014 is shown in Table 1 below.

Table 1. Bankruptcies according to legal forms of entities in 2010–2014.

	2010	2011	2012	2013	2014		2010/11	2011/12	2012/13	2013/14
Limited liability company	454	475	502	524	455		4.63%	5.68%	4.38%	-13.17%
Sole trader	96	133	210	204	208		38.54%	57.89%	-2.86%	1.96%
Joint stock company	42	52	81	76	66		23.81%	55.77%	-6.17%	-13.16%
Unlimited company	31	29	45	37	41	Dynamics	-6.45%	55.17%	-17.78%	10.81%
Company limited by guarantee	n/a	12	16	20	24		n/a	33.33%	25.00%	20.00%
Cooperative	20	18	20	15	19		-10.00%	11.11%	-25.00%	26.67%
Other forms	12	4	3	7	10		-66.67%	-25.00%	133.33%	42.86%
Total	655	723	877	883	823		10.38%	21.30%	0.68%	-6.80%

Source: original research based on: *Portfolio of Polish enterprises receivables, National Debt Register, Conference of Financial Enterprises*.

The analysis of the data above clearly indicates that the number of bankruptcies fluctuates in time and depends on the condition of the economy. Taken quantitatively, it mostly affects small and medium-sized companies. The reasons for this phenomenon may be partly boiled down to the lack of an insurance offer for this market segment, as well as to the lack of awareness, on the entrepreneurs' side, of particular risks, potential effects of risk realisation and not seeking the tools protecting from them.

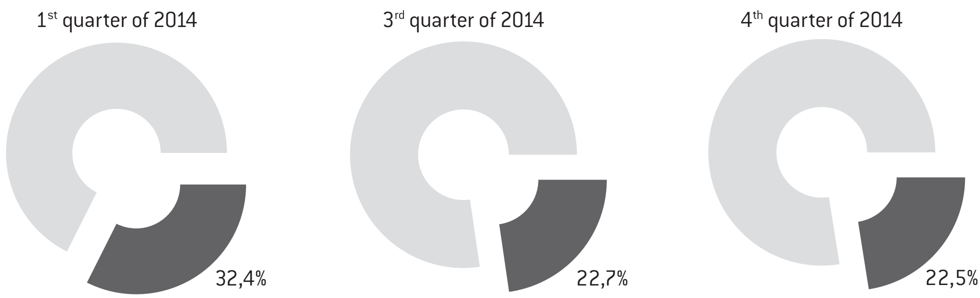
The research conducted by the author in April 2015 on a group of 167 enterprises belonging to the Podkarpacie Business Club[1] clearly indicates that entrepreneurs are taking the issue of risk and risk management more and more seriously. Over 87% of respondents declare that their

1. Original research based on a questionnaire conducted in the 1st quarter of 2015.

companies constantly monitor key risk areas, especially risks concerning potential property damages (79%, including those caused by business interruption – nearly 7%), loss of receivables (69%), or civil liability (31.5%). Simultaneously, 8.4% of respondents declared that over the past year they have used the services of external entities dealing with risk audit (representatives of insurance companies) and its optimization (external consulting companies). The respondents see the following key areas of risk which constitute the biggest threat to the functioning of their enterprise: civil liability (58.7%), losses in property (49.1%), threats of losing receivables (25.1%), payment gridlocks (backlogs) (10.2%), political risk (9.6%), business interruptions due to fortuitous events or disruption of deliveries (7.2%), and acts of terror (2.4%). The research currently conducted in Europe shows that risk managers see the following key risks to European business: political risk, reputation risk, conformity risk, competition, economy, market strategy, strategic planning, HR, quality and financial liquidity[2].

The results obtained must be confronted in each case with the situation on the market, which may significantly affect the perception of financial risks by entrepreneurs. In January 2015, the percentage of overdue receivables in portfolios of Polish entrepreneurs fell to the lowest level in history: currently, only 22.5% of invoices have not been paid on time. The percentage of overdue receivables held by Polish enterprises in years of 2009 and 2014 was presented on Figure 1 below.

Figure 1. Percentage of overdue receivables held by Polish enterprises



Source: original research on the basis of data from reports published by the National Debt Register and Conference of Financial Enterprises.

An average period of receivable overdue is 3 months and 12 days and it is the lowest level in history. In practice, for companies this ratio means a significant growth of economic trade safety. According to the respondents' declarations, problems with settling own liabilities due to difficulties in obtaining receivables fell by 1.2%, as it constitutes a problem to 30.6% of enterprises in the Polish economy[3].

The analysis of the data above indicates that entrepreneurs evaluate changes in the economy positively. Nevertheless, they are increasingly aware of threats and risks related to the finances of their enterprises. However, these risks are usually not due to random events, but consequences

2. Federation of European Risk Management Associations, European Risk and Insurance Report, Executive Summary of the FERMA Risk Management Benchmarking survey, 7th Edition, 2014
3. Białowolski P., *Portfel należności polskich przedsiębiorstw*, Krajowy Rejestr Długów, Gdańsk-Wrocław, January 2015, pp. 5

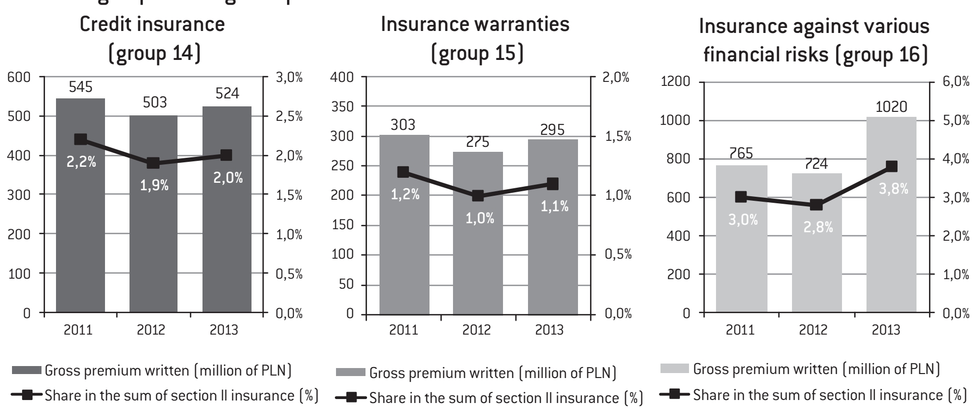
of conscious activities of other market participants. On the other hand, there is a deficit of analyses that would show the perception and possible consequences of financial risks resulting from interruptions in business activity on the Polish market.

We may suspect that the significance of insurance products protecting against particular types of financial risk will grow in the future, which will generate the need for further research on the possibilities of their use and evaluation of significance in securing the conducted business.

2. Presentation of the situation on the insurance market related to optimisation of financial risk in Poland

The proper analysis of the insurance market and the products it offers to protect against particular types of financial risk should take into account the essence and specificity of financial insurance, its dissimilarity and otherness[4]. Most data available in Poland comes exclusively from analyses as to how much are the products classified as financial insurance used (premium written, loss ratio), how are they listed in the attachment to the Act on Insurance Activity as belonging to: group 14 (credit insurance), group 15 (suretyship insurance), group 16 (miscellaneous financial loss insurance), and what is the share of particular insurance companies in the market. There are no in-depth analyses which would reflect the share of singled out risk within particular groups, for example the trade credit insurance within group 14 or the business interruption insurance within group 16, which calls for further research. The Figure 2, below, shows dynamics of changes to the gross premium, calculated in million PLN, within particular product groups classified as financial insurance, taking into account suretyship insurance and percentage share of particular groups in the global premium written for section II of insurance.

Figure 2. Dynamics of changes in the gross premium, in million PLN, and percentage share of particular insurance groups in the global premium written in section II

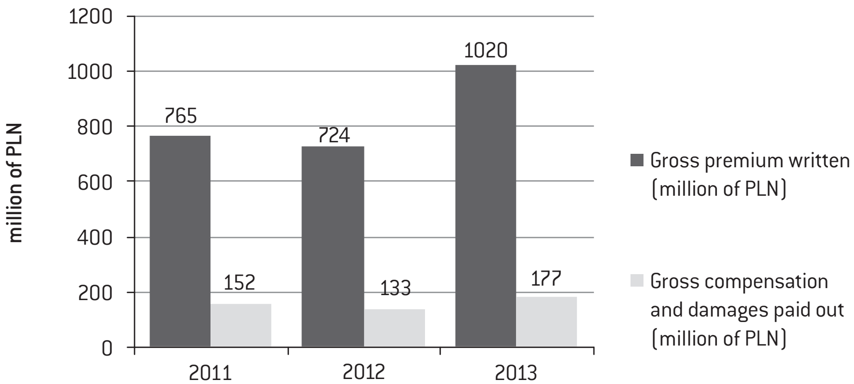


Source: original research based on: Polish Chamber of Insurance, Annual Report 2013.

4. Holly R. (editor), *Ubezpieczenia finansowe i gwarancje ubezpieczeniowe*, Poltext, Warszawa 2003

The analysis of data presented in figure 3 shows similar relationships in years 2011–2013, existing in the market as far as credit insurance and suretyship insurance are concerned, compared to the gross premium written and share in the sum of premiums of section II. Both groups of products show stability in the analysed parameters. In the case of credit insurance, the gross premium written oscillates around PLN 500 million and the share in the section II premium is around 2%, whereas in the case of suretyship insurance these values are, respectively, nearly PLN 300 million and slightly over 1%.

Figure 3. Premium written and gross compensation paid out within group 16 section II in 2011–2013



Source: original research on the basis of: Polish Chamber of Insurance, Annual Report 2013.

A completely different situation can be observed in group 16 (miscellaneous financial loss insurance), where we can notice a 33% growth in the gross premium written over the analyzed period, accompanied by a 27% growth of the share of this insurance group in global premiums for section II, which was presented in Chart 3.

An essential parameter in assessing the situation in the analysed insurance groups in 2011–2013 is a comparison of collected premiums with paid out damages, presented in Table 2.

Table 2. Collected premiums and paid out damages, in million PLN, over the 2011–2013 period within groups 14, 15, 16

		2011	2012	2013
Gr 14	Gross written premium (1)	545	503	524
	Paid out damages (2)	175	291	360
	Loss ratio	32.1%	57.9%	68.7%
Gr 15	Gross written premium (1)	303	275	295
	Paid out damages (2)	67	422	326
	Loss ratio	22.1%	153.5%	110.5%
Gr 16	Gross written premium	765	724	1020
	Paid out damages	152	133	177
	Loss ratio	19.9%	18.4%	17.4%

Source: original research on the basis of: Polish Chamber of Insurance, Annual Report 2013, Financial Supervision Committee.

The analysis of the data above, compared with the presentation of bankruptcies from Table 1, proves that the years 2012–2013, the period of the highest number of bankruptcies, also saw high loss rate both in case of credit insurance and suretyship insurance. There is no research or analysis, though, that would allow us to determine to what extent the support from insurers, in form of paid out damages and warranty sums, protected the interests of the insured companies and helped them avoid bankruptcy. This subject calls for in-depth analysis. Simultaneously, we should pay attention to the situation in group 16 – miscellaneous financial loss insurance. The premium written and the global share in the premium of section II in the analysed period grew significantly. Compared to the stable though slightly falling loss ratio, we may venture to suspect that the insured companies are growing more aware of both the need to possess such type of insurance, and their growing involvement in risk management processes.

3. Review of selected literature on the use of insurance in minimizing particular types of financial risk

The issue of financial risk management in the contemporary world is gaining significance and is increasingly becoming the subject of research conducted by scientists, who analyse such aspects as credit insurance, business interruptions insurance or suretyship insurance (the last type, due to the size constraints of this paper, was omitted here). More attention is paid to the issue of financing trade, especially in periods of financial crises. In their research, scientists search for the influence of trade credit on trade on a macro scale in economic cycles. This is the subject of research conducted by M. Auboin (World Trade Organization) and M. Engemann (University of Munich), who aim to demonstrate the influence of minimising risk of receivable loss by trade credit insurance on the general trade of a country. Their research was based on quarterly data concerning the insured trade credits for the period of 2005–2011, provided by export agencies and private insurance companies from 91 countries[5]. It identified significant positive influence of the insured trade credits on trade, which remains stable in the whole business cycle, and remains unchanged between the periods of crisis and economic boom. In the quantitative presentation it was proved that 1% growth in the value of trade credit granted to a given country accounts for 0.4% growth in the real imports of that country. Therefore, it is necessary to keep incentives for offering trade credit at a high level, especially in the contemporary period of de-leveraging the financial system. This brings us to a conclusion that access to trade credit should be facilitated and supported[6]. The authors anticipate the possibility of further work in this area, to inquire into the process of choosing between various instruments of financing trade.

A separate research area concerning the trade credit insurance is outlined by D. Lamminmaki and Ch. Guilding, who refer to the possibility of outsourcing the service of trade credit management

5. The research used the database of Berne Union, an international trade association for credit and investment insurers, with over 70 members, world leading credit insurers and public agencies of export credits among them. The value of credits insured by members of the association covers over 10% of international trade.

6. Auboin M., Engemann M., 2014, *Testing the Trade Credit and Trade Link: Evidence from Data on Export Credit Inurance*, Review of World Economics, Volume 150, Issue 4, pp. 715–743

in large Australian enterprises. The respondents indicated the level of outsourcing in the areas of trade credit management, taking into account five functionalities, namely[7]:

- credit risk assessment,
- the credit granting decision,
- credit collection,
- financing receivables,
- the assumption of credit risk.

Presenting their results, the authors, apart from the importance ascribed to particular variables, draw our attention to correlations between variables and average outsourcing TCM according to the type of conducted activity. In their considerations they refer to other research conducted in large British companies, which demonstrated that 38% of them buy credit insurance, while only 17% insure more than 70% of the total value of granted credits[8]. This leads to the question of what are the reasons for using the trade credit to finance the activity of debtors. Empirical evidence indicates that the implied interest rate of trade credit is generally very high compared with bank loan interest rate. Granting trade credit is riskier than a bank loan, due to the fact that suppliers usually lend when banks are not willing to do so. More and more often such credits are insured by suppliers themselves. Such insurance is not a separate insurance product, but only a certain additional sum paid within the granted trade credit. The main advantage of using the insurance offered by the supplier is the fact that there is trade interaction between both partners. There is no need to sign a contract with a third party in a situation when the supplier is interested in saving the client, when the client cannot expect help from any other entity and the benefits of continuing trade exceed the costs of saving the client[9].

Evaluation of the influence that insurance has on limiting risk in the quantitative model of operational risk is the subject of analyses performed by Brandts[10]. Brandts models the residual risk included in the insurance contract, such as the risk of non-performance of an obligation by a contractor, the uncertainty of receiving payment, and risks to liquidity caused by delayed payment.

The key financial risks appearing in operations of enterprises, apart from loss of receivables, concern the consequences of interruptions or constraints imposed on the business operations for various reasons. It is essential for enterprises to apply complex ways of coping with such disturbances. The research authors most frequently focus on analysing the influence that disturbances have on the expected profit of an enterprise. Research in this area is conducted by, inter alia, Li Xin-jun and Wang Li-jie. They prove that business interruption insurance may soften the negative effect of growing costs on expected profits. Their research shows that the value of BI insurance is higher when the probability of interruptions is lower and the penalty ratio is higher.

7. Lamminmaki D., Guilding Ch., *A Study of Australian Trade Credit Management Outsourcing Practices*, Australian Accounting Review, vol. 14/2004, issue 32, pp. 53–62
8. Pike R., Cheng N., *Business Trade Credit Management: Experience of Large UK Firms*, University of Bradford Management Centre Working Paper Series, Paper No. 9613/1996;
   Pike R., Cheng N., Chadwick L., *Managing Credit for Competitive Advantage: A Survey of Large UK Companies*, Chartered Institute of Management Accountants. 1997.
9. Cunat V., *Trade Credit: Suppliers as Debt Collectors and Insurance Providers*, The Review of Financial Studies, Vol. 20, No 2 (Mar. 2007), pp. 491–527
10. Brandts S., *Operational Risk and Insurance: Quantitative and qualitative aspects*, EFMA 2004 Basel Meetings Paper.

Simultaneously, the benefits brought by insurance are higher when a producer has smaller funds or more external investment possibilities[11].

V.K Jain and J. Guin emphasise that most publications in the analysed area focus exclusively on quantitative and qualitative property losses, omitting the issue of economic losses. The authors point at the methodology of BI risk assessment both for insurers and individual companies and communities, at the possibilities of spreading interruptions in one company onto other enterprises, as well as at the difficulties with assessing BI losses. They present the model of estimating BI losses they developed, which takes into account: the area simulation of a catastrophe, definition of the time of interruption and the management decision tree after the occurrence of the base loss. The summary of their work is the implementation of the developed model into a hypothetical business[12].

In Poland, the possibilities of growth in the area of using business interruption insurance by entrepreneurs are mentioned, among others, by A. Pawłowska[13]. In her work she identifies barriers created by the market and resulting from dysfunctions observed on the side of the product and producer (insurance company). in her opinion, the main barriers shaped by the market include: much lower insurance awareness than in the West, high capital requirements imposed on insurance companies, macro-economic situation, and lack of proper transparency of insurance terms. The group of internal barriers arising from dysfunction observed on the product and producer side include, according to her, incomprehensible provisions in insurance contracts, a long waiting time to sign an insurance contract, wrongly calculated insurance sums, high complexity of the product, too high franchise, underinsurance of the product and the amount of premium. Also, J. Lisowski[14] deals with the impact of trade credit insurance on the financial situation of enterprises on the Polish market.

Summary

The occurrence of particular types of financial risks threatening contemporary enterprises may bring about serious consequences, significantly affecting their operations. These effects may include lower profitability, limiting operations and even bankruptcy. These problems are in the center of interest for all the interested parties, which are entrepreneurs threatened by the risk, service providers who optimise and prevent the consequences of the analysed types of risk, and finally – scientists. Each of these groups, however, pays attention to only a segment of information concerning the essence of the analysed problems, their sources and premises. This leads to a growing interest of academic circles in researching the discussed phenomena and presenting conclusions, the most important of which comprise activities aimed at facilitating and supporting access to credit insurance, understanding the process of choosing between various instruments supporting trade, and evaluation of the possibilities of outsourcing receivables management in companies.

11. Xin-jun L., Li-jie W., *Strategy Decision of Business Interruption Insurance and Emergency Supply Strategy Based on Supply Disruptions*, Journal of Industrial Engineering and Management, 8(1)/2015, pp. 110–121.
12. Jain V.K., Guin J., *Modeling Business Interruption Losses for Insurance Portfolios*, presentation at: 11th Americas Conferences on Wind Engineering – San Juan, Puerto Rico, 22–26 June 2009
13. Pawłowska A., *Identyfikacja obszarów dysfunkcyjnych w polisach business interruption*, The Journal of Management and Finance, nr 2/5 2013, pp. 213–217
14. Lisowski J., *Trade credit insurance – specifity of risks*, Insurance Review. Knowledge for Practice – Warszawa, Polska Izba Ubezpieczeń, 4/2014. p. 19–27

Simultaneously, research is focused on identifying external and internal barriers, elimination of which will increase the using of profit loss insurance (business interruptions). The authors conducting research also point at the necessity of taking into account, apart from quantitative and qualitative property losses, the economic losses suffered as a result of risk occurrence.

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Xin-jun L., Li-jie W., *Strategy Decision of Business Interruption Insurance and Emergency Supply Strategy Based on Supply Disruptions*, Journal of Industrial Engineering and Management, 8(1)/2015, pp. 110–121.

Ubezpieczenia w procesie zarządzania ryzykiem finansowym w działalności przedsiębiorstw

Publikacja ma charakter raportu metodologicznego. Jej przedmiotem jest zestawienie założeń metodologicznych i wniosków płynących z badań zaprezentowanych w wybranych pozycjach literatury, poświęconych badaniom nad wykorzystaniem ubezpieczeń w minimalizacji ryzyka finansowego, wynikającego przede wszystkim ze stosowania kredytu kupieckiego lub będącego efektem nagłych przerw w działalności przedsiębiorstwa. Autor, rozpoczynając własne badania w tym obszarze, analizuje *cele definiowane przez badaczy, specyfikę badanych zbiorowości oraz atrakcyjność uzyskanych wyników z punktu widzenia zarówno naukowego, jak i komercyjnego. W przyszłości zamierza wykorzystać najlepsze praktyki badawcze implementowane przez innych naukowców podejmujących interesujący go temat do przeprowadzenia własnych badań na podmiotach gospodarczych z polskiego rynku. Inspiracją do przygotowania publikacji o takim charakterze jest, z jednej strony obserwowany w praktyce biznesowej, także na rynku polskim, dynamiczny rozwój produktów ubezpieczeniowych o takim charakterze, z drugiej zaś deficyt badań naukowych i publikacji im poświęconych, które identyfikowałyby jednoznacznie zależności zachodzące pomiędzy stosowaniem tego typu instrumentów finansowych a poziomem ryzyka finansowego, wynikami przedsiębiorstw, czy zagrożeniem bankructwem.*

Słowa kluczowe: ryzyko finansowe, ubezpieczenia finansowe, zarządzanie ryzykiem

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