TRADE CREDIT INSURANCE AND ASYMMETRIC INFORMATION PROBLEM

Olena SOKOLOVSKA[*]

Abstract

The presence of different risk factors in international trade gives evidence of the necessity of support in gaps that may affect exporters' activity. To maximize the trade volumes and in the same time to minimize the exporters' risks the stakeholders use trade credit insurance. The paper provides analysis of conceptual background of the trade credit insurance in the world. We analyzed briefly the problems, arising in insurance markets due to asymmetric information, such as adverse selection and moral hazard. Also we discuss the main stages of development of trade credit insurance in countries worldwide. Using comparative and graphical analysis we provide a brief evaluation of the dynamics of claims and recoveries for different forms of trade credit insurance. We found that the claims related to the commercial risk for medium and long trade credits in recent years exceed the recoveries, while with the political risk the reverse trend holds. And we originally consider these findings in terms of information asymmetry in the trade credit insurance differentiated by type of risk.

Keywords: trade credit insurance, export credit, international trade, international finance

JEL classification: F10; F39; G22

1. INTRODUCTION

At the current stage of development of international trade the indirect promotion of cross-border trade in goods and services becomes increasingly important. More than three quarters of all transactions are accomplished with credit instruments. International practice includes different tools for supporting the participants of trade. Since the protection is perceived as the main reason to use appropriate instruments, the widespread instrument is the financial support in the form of trade credit insurance in order to cover risks, occurred during transactions. The presence of different risk factors in international trade gives evidence of the necessity of support in gaps that may affect exporters' activity.

In order to maximize the trade volumes and in the same time to minimize the exporters' risks the stakeholders use trade credit insurance, which could be regarded as an important tool to manage the risk of delaying payments or a failure to pay.

---

[*] Research Institute of Fiscal Policy, State Fiscal Service of Ukraine and Institute of Industrial Economics of National Academy of Sciences of Ukraine, Kyiv, Ukraine; e-mail: *elena.lukyanenko@gmail.com*.

Since in transition economies this instrument of facilitating international trade is not a frequent practice, in order to elaborate some practical guidelines aimed at improving the financial support of exporters it is expedient to consider some conceptual issues of trade credit insurance as the widespread instrument of mitigating risks in international trade.

So, the purpose of the paper is to provide analysis of conceptual background of the trade credit insurance in the world. It will also focus on brief analysis of the dynamics of claims and recoveries for both short-term and long and medium term trade credit insurance. To do this we structured the paper as follows. Section 2 reviews theoretical and empirical research on the insurance markets and trade credit insurance. Section 3 provides brief theoretical background of trade credit insurance, its history, benefits and disadvantages and examines briefly the problems in insurance markets occurred due to asymmetric information. Section 4 analyzes the dynamics of claims and recoveries for both short-term and long/medium term trade credit insurance in the world. Finally, Section 5 presents some concluding remarks.

2. LITERATURE REVIEW

Some part of existing research studies the theoretical aspects of trade credit insurance in the globalized world, and the problems of insurance markets such as adverse selection and moral hazard.

In their famous work "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information", Rothschild and Stiglitz (1976) examined incomplete competitive markets with imperfect information, focusing on the insurance market. They developed a model which showed that existing market equilibrium consists of contracts which specified both prices and quantities.

Dewit (1996a) examined incomplete insurance markets with adverse selection and trade opportunities. She argued that subsidizing a public insurance system could be regarded as the second-best policy aimed to remove inefficiencies on incomplete markers. Moreover, such policy could lead to a trade creation.

In her another work "Export Insurance Subsidization: Risk Coverage, Strategic Export Promotion or Aid?", Dewit (1996b) investigated government export insurance subsidization as a way of strategic export promotion. Notably she investigated the provision of export insurance under asymmetric information in the insurance market with oligopolistic behavior. The author concluded that when only constrained coverage contracts are offered and there are information asymmetries, the simple state intervention rule is no longer effective.

Gianturco (2001) investigated the role of export credit agencies (ECAs) and their financial impact on international trade, notably by examining their history and functions and making conclusions about their contribution to national development and economic growth. Baker (2003) examined the U.S. system of international trade finance including the main financial and credit institution such as the U.S. Export-Import Bank, the Foreign Credit Insurance Association, the Public Export Funding Corporation which insure trade credits and facilitate country's trade. Riestra (2003) examined the development of credit insurance in European countries in order to determine its possibilities and constraints, notably for small- and medium-sized companies. Gomes (2004) compared both American and Brazilian models of export credit insurance. As a result, he found some similarities in the policy-making and regulatory boards and certain differences concerning the operational agents.

Ascari (2007) examined main factors of changing the export credit insurance business model. He found that actual strategies of export insurance companies diverge from traditional models in order to become a global financial player in the international markets. Einav and Finkelstein (2011) analyzed both theoretical and empirical work on adverse selection in insurance markets, notably its implications for allocation of insurance, social welfare, and public policy. Cuñat and Appendini (2012) studied the trade credit and its role in financing of small and medium businesses, taking into account the problems of transactions costs, imperfect competition, incomplete markets, adverse selection and moral hazard.

van der Veer (2015a) studied the impact of claims on the both availability and price of export credit insurance. The obtained results allowed him to conclude that the global trade credit insurer could shift extreme loss shocks across countries worldwide by temporarily reducing its export credit insurance supply. Yalcin (2015) examined an impact of bilateral investment treaties and their insurance as a tool of protection of foreign investors.

Empirical research estimating the impact of trade credit insurance on trade flows and economic growth is generally provided for selected industries, countries and regions, where such influence could be perceived as significant.

Panagariya (2000) investigating the case for export subsidies argued that in most practical situations the removal of tariffs (free trade) could be regarded as a superior policy. Also he investigated the problem of moral hazard and adverse selection, by concluding that this is not a reliable reason for government intervention. The study of practical experience of India, Brazil and Mexico allowed him to conclude that in India export subsidies have little impact on exports while in Brazil and Mexico export subsidies were a wasteful tool to promote export diversification.

Olivella and Vera-Hernandez (2008) tested the hypothesis of adverse selection on private health insurance markets. Notably, they supposed the correlation between risk and the probability of taking private insurance under adverse selection and symmetric information. And they found evidence of adverse selection in the British private health insurance market. Sandstrom (2008) examined the relationship between political risk and international debt defaults. In order to test hypothesis that country-specific political risk factors cause constraints for debt repayment, both when the export credit is extended to public institutions or to corporations, she used data of export credit guaranteed debt contracts of Finnish exporters and foreign counterparts in 145 countries worldwide.

Shi *et al.* (2012) studied adverse selection in insurance markets with information asymmetry where beneficiaries differ in the degree of risk aversion and riskiness. They tested empirically their theoretical model using observations from major Singapore's automobile insurer. The regression model allowed them to conclude about evidence of asymmetric information in this market.

Auboin and Engemann (2014) examined the impact of trade credit on trade on a macro level. They used data on trade credits for the period from 2005 to 2011. Using econometric techniques they identified positive impact of insured trade credit on trade. Furthermore authors found that this impact is very strong and stable over the whole cycle, remaining steady both at crisis and non-crisis stages. Manova and Yu (2014) investigated the impact of financial frictions on China companies' choice between ordinary trade and processing, and also how could such decision affect firm's performance. They found that such credit constraints could induce economic agents to conduct more processing trade and could prevent them from developing higher value-added activities.

Sozen and Karan (2014) analyzed the problem of possible adverse selection on the export credit market in Turkey. They developed credit risk model for 1114 SMEs that take direct credits from Türk Eximbank within the period from 2003 to 2008. As a result they found that some specific sectors were over-supported by the Bank directly, that allow them to conclude about information asymmetry and adverse selection problem on the export credit market. van der Veer (2015b) using econometric techniques examined a relationship between private export credit insurance and trade. He used panel data, notably, the value of exports insured, of world's leading private trade credit insurers from 25 exporting countries to 183 destination ones for the period of 1992 to 2006. As a result he found that that private export credit insurance affects trade (trade multiplier) to a greater extent than the value of exports insured. Kerer *et al.* (2016) studied the credit insurance in African countries, namely Morocco, Ghana, Uganda and Madagascar in the framework of intention of German government to increase its engagement in agricultural finance in Africa.

3. THEORETICAL BACKGROUND

The experts of the World Bank determine trade credit insurance as an "insurance policy and risk management product that covers the payment risk resulting from the delivery of goods or services" (Jones, 2010, p. 3). Trade credit insurance aims to protect the accounts receivable of economic agents from losses occurred as a consequence of non-payments of their debtors. Also it could cover losses resulting from such risks as war and civil disturbance, nationalization, expropriation etc.

Since the premiums are generally charged monthly, they are calculated either as the percentage of sales of given month or as a percentage of receivables outstanding. It should be noted that this type of insurance insure only the risk of firms, not of individuals and the premium rate reflects the average credit risk of the insured portfolio. The trade credit insurance could also cover single large transactions.

According to A Guide to Credit Insurance, issued by Euler Hermes (2015), the largest provider of trade credit insurance in the world, trade credit insurance "is a business insurance product that protects a seller against losses from nonpayment of a commercial trade debt" (Euler Hermes, 2015, p. 2).

The short-term trade credit insurance usually covers trade transactions having terms of repayment of one year or less. Medium- and long-term trade credit insurance includes insurance for transactions for more than one year (generally, from 3 to 5 years) (Auboin and Engemann, 2014, p. 5).

A standard trade credit insurance policy cover all receivables, while specific account insurance could apply to certain group of customers or to selected transactions. But such policy typically does not include the trade between affiliates of MNC, the trade between government departments and agencies. Also at present day the activity of trade credit insurer is accompanied by credit management services and excess loss cover, when insurer covers the risk of exceptional default payments (Riestra, 2003, pp. 2-3).

According to Euler Hermes (2015) estimations, the trade receivables could represent from 30% to 40% of a supplier's balance sheet. This means that economic agents face risks of financial difficulties occurred due to the buyer late or non-payment. Notably, 25% insolvencies of suppliers in the European Union are occurred due to these reasons (Euler Hermes, 2015, pp. 9-10).

In insurance markets the widespread is the problem of asymmetric information, since certain participants are informed better about situation on the market. The adverse selection occurs before the transaction is accomplished when economic agents are more informed about their risks, about probability of a loss etc. than the insurers. The situation of moral hazard, as a type of information asymmetry, appears after the transaction occurs, when insurance companies are not able to observe perfectly the actions of insureds and as a result they are dissuaded from providing the protection that would be ensured in a market with perfect information.

The problem of asymmetric information is larger for the developing countries than for developed ones for two reasons. First are the difficulties in obtaining the information. Second, the instruments designed to protect the counterparties may not be available as required (Sokolovska and Sokolovskyi, 2015). Insurance and credit markets and ratings are less, thereby complicating the acquisition of information in order to prevent an adverse selection situation. Also the provision of insurance and credit services is often limited by a non-developed legal system, complicating the contract enforcement. That, in turn, limits the use of collateral aimed to reduce moral hazard (Fingerand and Schuknecht, 1999, p. 4).

Figure no. 1 presents the classic case of adverse selection in the insurance market.
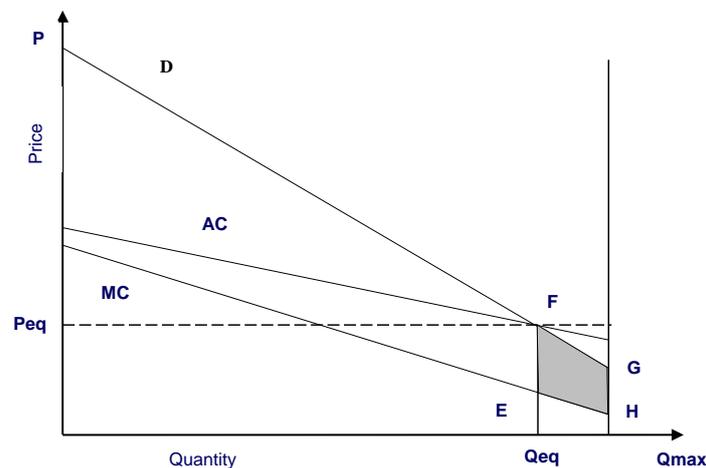
Notes: D – demand curve; MC – marginal cost curve; AC – average cost curve
Source: Einav and Finkelstein (2011)
Figure no. 1 – Adverse selection in the insurance market

Marginal cost curve has a downward slope. This reflects the adverse selection property of insurance markets: individuals who want to pay the most for coverage have the highest expected cost. The demand curve reflects the willingness to pay for insurance.

The risk premium is shown graphically in the figure as the vertical distance between the MC curve and the demand curve. The demand curve in theory is always above the marginal cost curve, since the risk premium is always positive. This means that the demand curve is efficient for all economic agents to be insured ($Q_{eff} = Q_{max}$), i.e. the efficient allocation is defined by relationship between demand and marginal cost, and that is the reason of arising the inefficiency occurred due to adverse selection. At the same time the

equilibrium allocation could be determined between demand and average cost. In the case of adverse selection the average cost curve lies above the marginal cost curve and intersects the demand curve at a point less than Q_{max}. As a result the equilibrium quantity will be less the efficient one (Q_{max}) and the equilibrium price (P_{eq}) will be less than efficient price – the situation of under-insurance.

In such case the cost of welfare will depend on the lost surplus (the risk premium), of economic agents who will remain inefficiently uninsured in the competitive equilibrium, i.e. whose willingness to pay does not exceed the equilibrium price, P_{eq}. As a result, the total welfare loss from adverse selection in this example can be determined by the area of the deadweight loss trapezium EFGH (Einav and Finkelstein, 2011, pp. 116-119).

The insurance theory generally determines two main types of insured risks in international trade: commercial risk and political risk.

Commercial risk is the risk of failure of the buyer to fulfill its obligations (contractual payment) due to insolvency or bankruptcy. According to the International Credit Insurance & Surety Association (2015), political or country risk is "the risk that a government buyer or country prevents the fulfillment of a transaction or fails to meet payment obligations in time" (p. 171). Short-term trade credit insurance typically covers both political and commercial risks.

van Dijk (2012) determines also fabrications risk, which means that the supplier is not able to deliver the goods and services due to circumstances of the buyer of these goods. The International Credit Insurance & Surety Association (2015) determines additionally conversion or transfer risk, which could be considered as a sort of political risk, also contract risk, post-shipment risk, pre-credit risk etc.

According to EU experts (2012) trade credit insurance has its own characteristics, which distinguishes it from other classes of insurance. First, the claims tend to follow the business cycle. In general, this is typical for commercial risk claims. Second, the claims paid do not coincide with losses. In some periods claims could exceed the insurer's recoveries. This is typical for political risk claims. Third, the costs of administration are higher than for most other types of insurance due to both labour intensive process and costs related to minimization of losses and recovery work (International Financial Consulting Ltd., 2012, pp. 5-7).

A bulk of research determines three main alternatives to trade credit, which could be used for mitigating the credit risk. Table no. 1 summarizes benefit and disadvantages of trade credit insurance and its most common alternatives.

Table no. 1 – Trade credit insurance and its main alternatives in the insurance market

	Letter of credit	Factoring	Self-insurance	Trade credit insurance
Characteristics	It is a bank's agreement, which guarantees to the supplier the payment of a buyer's obligation for the amount due with the specified terms and conditions. Only provides coverage for a single transaction with a single buyer The risk is beared by the bank, not the buyer	Prefinancing the suppliers by financial institutions (factors), which pay a percentage of the face value of a trade receivable to the supplier.	Creation of backward debt reserves aimed to cover losses occurred due to the default of receivable outstanding. As a an indicator firms could use the percentage of sales, past loss experience, percentage of overall receivables etc.	Protection companies' accounts receivable from losses occurred due to different risks

	Letter of credit	Factoring	Self-insurance	Trade credit insurance
Advantages	The payment is guaranteed by the bank. Giving security to both the supplier and the buyer. Reducing the production risk.	The payment is guaranteed by factor Giving to a company an immediate access to cash	Requiring the internal resources. Maintaining direct relationship with customers. Covering any type of loss	Transfers of risks. Ensuring the sales growth and expansion into international markets. Receiving better financing terms. Reduction of backward debt reserves. Prevention suppliers from liquidity shortages or insolvency. Improving the borrowing power due to including the foreign receivables into the borrowing base. Providing an access to the insurer's expertise. Providing the stability and reduction the volatility of earnings
Disadvantages	Expensiveness (fees and interest). Sensitivity to the foreign currency fluctuations. . Need to be cash secured (typical for developing markets). Increasing the transaction costs. Reduction the buyer's borrowing capacity	Lack of control. Aversion of some companies to deal with a "third-party" Expensiveness (two types of costs: a service charge – a percentage of sales factored, and an interest charge for the cash advance loan).	Absence of fixed premium cost every month. No risk spreading. The absence of detailed statistics, generally provided by insurers. The insufficiency of accumulated funds in order to cover large and unexpected catastrophic losses	Presence of specific coverage limits, other exclusions or limitations on coverage. Exclusion of foreign accounts from coverage (typically) Requiring the detailed periodic reports from the supplier.

There are another tools for trade credit insurance such as alternative risk transfer (ART), which is mostly reserved for MNC and not for credit risks cash in advance (this is not a common method in international trade), bank guarantee, documentary collection.

The main difference between letters of credit and trade credit insurance is the responsibility of the buyer, but not the supplier, who requests it from the bank. Approximately 70% of exported goods and services in America are traded through letters of credit. He argued that the company's decision to choose whether factoring or trade credit insurance depends from desirable level of coverage and the size of the firm. Notably, large companies will not choose factoring, while the small companies will seek for factor's services in order to do not dedicate their own resources to these functions. Also, when a company has a large number of low-value invoices and, respectively, the large number of clients the factoring could be an appropriate tool in order to mitigate the risks. At the same time the company with a small number of clients and high-value invoices will choose trade credit insurance as the cheapest tool (Riestra, 2003, pp. 12-13).

Zurich American Insurance Corporation (2013) distinguishes four main types of trade credit insurance programs. They include the following.

1. Whole-turnover policy under which the insured agent is required to cover its customers. Such policy, in turn, is divided into two types: excess-of-loss or non-cancellable underwriting philosophy (for large companies) and Ground Up or cancellable philosophy (for SMEs).

2. Key Account Policy which is designed for economic agents who intend to insure only their key accounts.

3. Single Buyer Policy, proposed for company, having disproportionate exposure unit comparing to the rest of its customers;

4. Top Up Policy, under which the insured company uses a secondary carrier services in order to cover excess of limits of the primary buyer (American Insurance Corporation, 2013, pp. 3-4).

So, a trade credit insurance policy allows economic agents to be secured and to increase their sales on open account terms. It provides the competitive advantage to export traders, by ensuring the different trade credit insurance program, which can be adapted to certain conditions.

Let's briefly examine the history of trade credit insurance in the world.

The trade credit insurance practices appeared in the Mediterranean, after the Napoleonic wars in order to guarantee safety and payments in trade. The first insurers appeared in large ports such as Venice, Livorne, Naples and Gênes (Riestra, 2003, p. 14). But, according to Jones (2010) the first trade credit insurance techniques were established by the British Commercial Insurance Company in 1820 in order to provide both fire and life coverage (Jones, 2010, pp. 4-5).

In the present form, the trade credit insurance established at the end of nineteenth century, and after it was developed in Western Europe between the World Wars (Table no. 2).

Table no. 2. – Countries, established trade guarantee and insurance schemes and programs

Countries	Period	Rationale
Switzerland	1906	To reduce unemployment and to stimulate the trade
United Kingdom	1919 1921 – First Guarantee Scheme 1926 – Second Guarantee Scheme 1930 – Credit Insurance Scheme. 1933 – The Comprehensive Contract	To reduce unemployment and to stimulate the trade To cover both political and commercial risks in trade
Belgium *Denmark* *the Netherlands* *Finland* *Germany* *Austria, Italy* *France and Spain* *Norway*	1921 1922 1923 1925 1926 1927 1928 1929	To reestablish export trade To recover industries after the World War I To facilitate exports to the Soviet Union
Japan *Czechoslovakia, Latvia,* *Poland* *Sweden, Ireland*	1930 1931 1933 1935	To keep up trade flows after worldwide economic depression To maintain both output and employment
the United States	1934 Export Import Bank started to offer different guarantees similar to trade credit insurance. 1961 – Foreign Credit Insurance Association(FCIA)	To reduce the political risks and partly the commercial risks. In 1964 the FCIA took the commercial risks entirely, reinsuring them at Export Import Bank

Countries	Period	Rationale
Berne Union – International Union of Credit and Investment Insurers	1934	To encourage cooperation among national trade credit insurers. To exchange information on clients and countries. To improve the level of competency in insurance techniques of member countries
Mexico	1937 – Banco Mexicano de Comercio Exterior (BANCOMEXT) – the first trade credit insurer in a developing country	To finance trade with North America and Europe
Japan, Germany, Italy, Austria	Late 1940s – early 1950s	To restore exports To assist in reconstruction after the World War II
South Africa	1956 – the first African trade credit insurance program	To finance trade with Europe and Asia
Argentina, Bolivia, Brazil, Greece, Hong Kong, Korea, Pakistan, Peru, Portugal	1960s	To extend business activity and to increase employment To improve international competitiveness To increase exports flows To strengthen the balance of payments and the dynamic export growth industries
Ecuador, Jamaica, Malaysia, the Philippines, Singapore, Sri Lanka, Taiwan, Uruguay, Venezuela	1970s	
Egypt, Indonesia, Tunisia, Turkey	1980s	
Czech Republic, Hungary, Lithuania, Poland, Russia, Slovakia, Slovenia, Kazakhstan, Ukraine, and other countries	1990s	

Source: Jones (2010); Krauss (2011); Riestra (2003); van Dijk (2012)

At present the trade credit insurance remains a specific area of non-life insurance. During the 1990s, three groups – Autraduis, Coface and Euler Hermes accounted for over 85% of the global credit insurance market, i.e. this market is highly concentrated (Jones, 2010, p. 4).

In early 2000s, in Europe, trade credit insurance activity represented on average only 1% of non-life premiums. This indicator differed by country. For example, UK with high penetration rate for non-life insurance, had a relatively low credit insurance indicators, while Spain, having average rates of non-life credit insurance, ranked at the top for trade credit insurance. Due to EU regulations related to the privatization of short-term trade credit insurance, the premiums were increased substantially (Riestra, 2003, pp. 14-15).

The U.S. is now regarded as developing market for trade credit insurance products, since historically insured preferred other types of trade risks insurance, such as letter of credit. But the increased risks in cross-border transactions lead to the increase of the demand of trade credit insurance. So, the trade credit insurance is a new concept for the U.S. insurance market, notably in non-life insurance area. Now Eximbank plays a crucial role in this market, by proving coverage to small business and to companies dealing with higher risk countries (American Insurance Corporation, 2013, p. 2).

4. EMPIRICAL ANALYSIS

Let's analyze the situation with claims and recoveries in the countries worldwide. For that we used data provided by Berne Union for the period 2005-2015.

Figure no. 2 presents the dynamics of claims paid and recoveries for the short term trade credit insurance.
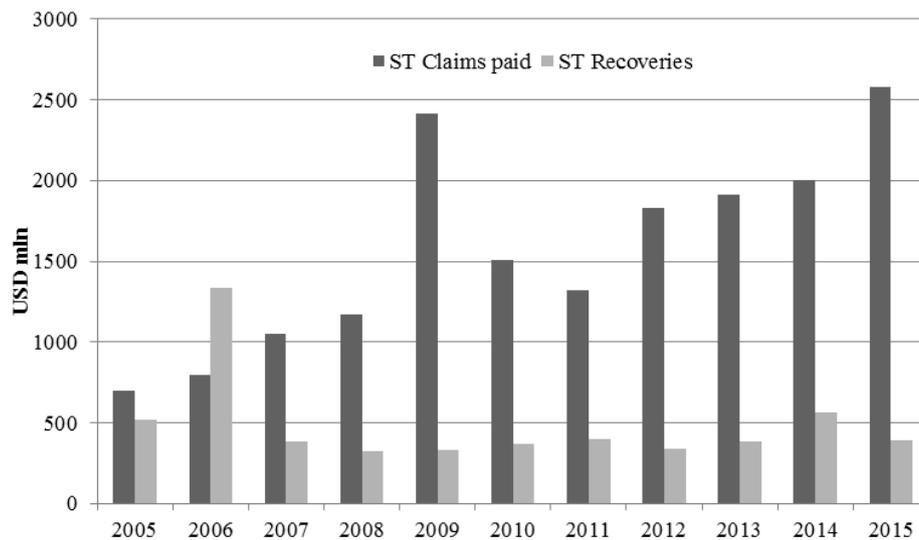
Source: Berne Union (2014, 2016); Sayer (2010); Bell (2014, 2015, 2016)
Figure no. 2 – Dynamics of claims and recoveries for short-term trade credits for 2005-2015

It can be observed that every year, except 2006, the claims paid exceeded recoveries. From 2005 to 2009 and from 2011 to 2015 claims paid for short term export credit transactions have been gradually increased, reflecting mainly the growing business volumes. This indicator returned to its normal value in 2010 and 2011 after peak in 2009. One of the main reasons of such unusual increase of claims paid was the Arab Spring.

According to Berne Union (2016), the highest volumes of claims paid for the short term export credit insurance per country in 2015 resulted from defaults in Russia ($236 million), Brazil ($205 million), Venezuela ($202 million), USA ($161 million), and Saudi Arabia ($150 million). It should be noted that many export credit agencies in the world have been affected by losses in Ukraine.

The peak of recoveries was reached in 2006; they were made from Algeria and Russia. Despite that in 2009 the claims paid were more than doubled the recoveries remained unchanged.

The next step is to analyze the dynamics of claims and recoveries for medium and long term trade credit insurance. For the analysis we divide the mentioned indicators for those related to the commercial risk (Figure no. 3) and to the political risk (Figure no. 4) respectively.

During the start of world financial crisis in 2008 one could observe the prevailing of commercial claims, related to liquidity shortages. But in 2009 the situation has been changed focusing on the political risk. In 2011-2011 the balance between commercial and political claims was disrupted due to situation in Iran and North Africa, notably in Libya.

The following increase of commercial claims relatively to political ones in 2010-2014 occurred due to economic deterioration of debtors, growth of privatization in emerging markets and to a devaluation of certain currencies. But in 2015 political claims occupied 54,3% of claims paid for the medium and long term trade credit insurance while the share of commercial claims was 45,7%.
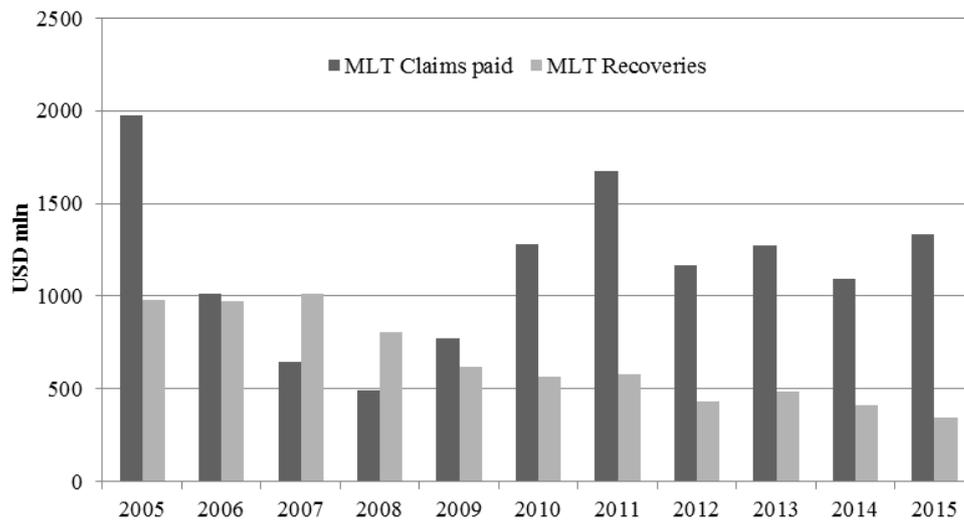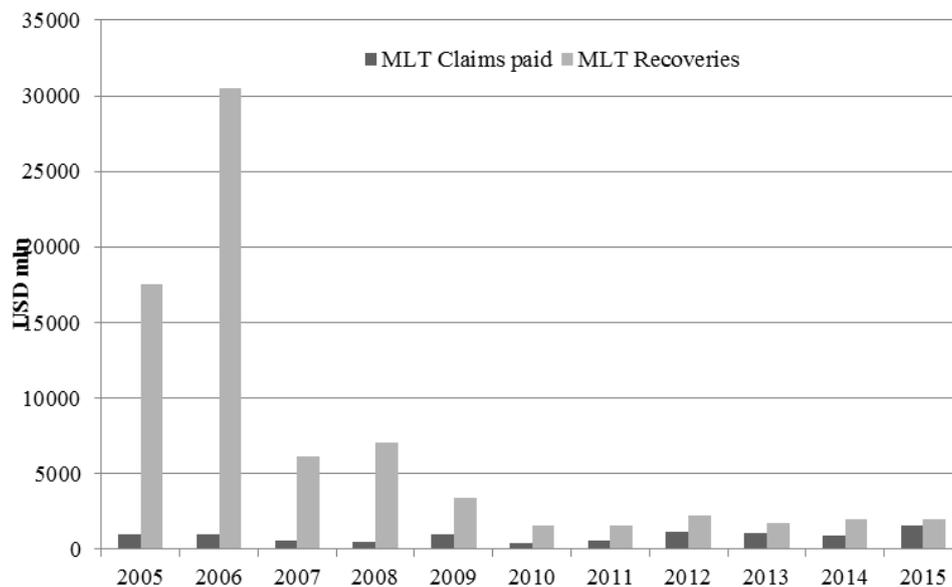

Source: Berne Union (2014, 2016); Sayer (2010); Bell (2014, 2015, 2016)
Figure no. 3 – Dynamics of claims and recoveries related to the commercial risk for medium and long trade credits for 2005-2015

According to Berne Union (2014), one of the most important reasons of dominance the commercial claims on political ones during the last 15 years was the transformation processes in Eastern Europe in the 1990s. Hans Janus, Member of the Board at Euler Hermes Deutschland Aktiengesellschaft, stated that "Political risk lost its dominance for credit insurers and in particular the currency conversion and transfer risks disappeared entirely as a consequence of the abolition of currency controls in most of the countries" (Janus, 2014).

It could be observed that in 2005-2008 MLT claims paid have been gradually decreased. The peak of MLT recoveries in 2005-2006 occurred due to large amounts recovered from Algeria, Nigeria and Russia. In 2009-2012 both MLT trade credit and political risk insurance claims have been increased due to deterioration of macroeconomic situation in many countries. This had a special impact on commercial claims.

Berne Union (2016) considers that the highest amounts of claims paid for the medium and long term trade credit insurance per country in 2015 were due to defaults in Russia (1,448 million, Iran ($374 million), USA ($301 million), Brazil ($192 million) and Ukraine ($168 million).

Source: Berne Union (2014, 2016); Sayer (2010); Bell (2014, 2015, 2016)
Figure no. 4 – Dynamics of claims and recoveries related to the political risk for medium and long trade credits for 2005-2015

It should be noted that the situation differs from country to country. For example, debtors in Iran faced difficulties to effect payments abroad due to sanctions. In Russia claims paid were affected by low prices for energy and mining resources. The number of claims in Ukraine is directly related to the geopolitical conflict and weakness, as a result, of national economy.

5. CONCLUSION AND FURTHER DISCUSSION

We briefly consider some conceptual issues concerning the trade credit insurance in the world. The provided analysis allowed us to determine that in now in international trade relations is rather difficult to operate without possibility of spreading the risk in order to offset partially the impact of losses. We also determine the main instruments of mitigating risks in international trade, their benefits and drawbacks. The expensiveness and transaction costs are the essential disadvantages of alternatives of trade credit insurance. Transactions in the insurance market are often affected by asymmetric information, which in turn lead to problems of adverse selection and moral hazard. We define that the essential reasons of introduction the trade credit insurance schemes in countries worldwide are re-establishing and developing the export trade, especially after geopolitical conflicts, improving the international competitiveness, strengthening the balance of payments.

Using both comparative and graphical analysis we provide an evaluation of dynamics of claims and recoveries for short-term and long and medium term trade credit insurance in the world. Let's briefly examine the implication of these findings in terms of information asymmetry in the trade credit insurance. We found that over the last years the claims paid on short-term trade credit insurance exceed the appropriate recoveries and that trend holds. This

is mostly related to the growing business volumes. The claims related to the commercial risk for medium and long trade credits in recent years exceed the recoveries, while with the political risk the reverse trend holds.

Said otherwise, for the commercial risk the claims/recoveries ratio exceeds 1, and conversely for the political risk. In terms of information asymmetry, this situation can be graphically represented as in Figure no. 5.
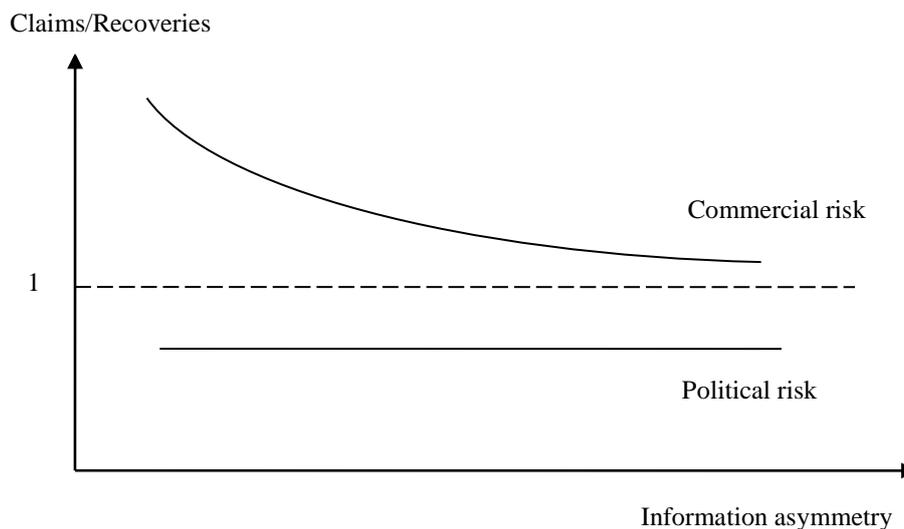
Source: author
Figure no. 5 – Commercial and political risk in trade credit insurance

Under commercial risk there are prerequisites both for the adverse selection and moral hazard since insureds are more informed about the risks of transaction. I.e. these risks are mostly endogenous. The insured could control his own behavior and (to a certain extent) the behavior of his counterpart and to provide the insurer an incomplete information in order to obtain an unfair benefit. In contrast, under political risk the insured could not manipulate the information since the risks are mostly exogenous.

The presence of information asymmetry leads to the appropriate behavioral decisions on the part of both insurers and insureds. But the reasons of different values of claims/recoveries ratios for both types of risk vary, notably:

• for commercial risk – the incomplete information and the relatively high level of control of commercial transactions can be a reason for the manipulations leading to the moral hazard possibly reflected in the excess of claims over recoveries;

• for political risk – the difficulties of estimation complicate the controllability of transaction on the part of both insurers and insureds since the impact of exogenous factors is very strong; the law of large numbers does not hold – in contrast with the commercial risk.

The direction of future research will be related to the quantitative estimation of claims and recoveries, notably the dispersion of their values differentiated by type of risk in order to examine the degree of awareness of an insurer about possible level of risk.

References

American Insurance Corporation, 2013. *Companies turning to Trade Credit Insurance in an unpredictable and debt-laden world*. Zurich: American Insurance Corporation.

Ascari, R., 2007. *Export credit agency a misnomer? The ECA Response to a changing world*: CFO, Sace.

Auboin, M., and Engemann, M., 2014. Testing the trade credit and trade link: Evidence from data on export credit insurance. *Review of World Economics, 150*(4), 715-743. doi: http://dx.doi.org/10.1007/s10290-014-0195-4

Baker, J. C., 2003. *Financing International Trade*: Greenwood Publishing Group.

Bell, J., 2014. *Berne Union Yearbook 2014*. London.

Bell, J., 2015. *Berne Union Yearbook 2015*. London.

Bell, J., 2016. *Berne Union Yearbook 2016*. London.

Berne Union, 2014. Berne Union Statistics. 2008-2013.

Berne Union, 2016. Berne Union Statistics. 2011-2015.

Cuñat, V., and Appendini, E., 2012. Trade credit and its role in entrepreneurial finance. In D. Cumming (Ed.), *Oxford Handbook of Entrepreneurial Finance* (pp. 526-557). Oxford: Oxford University Press.

Dewit, G., 1996a. *Export insurance subsidization and undistorted trade creation*. Working Paper N9610. University of Glasgow.

Dewit, G., 1996b. *Export Insurance Subsidization: Risk Coverage, Strategic Export Promotion or Aid?* Working Paper N9611. University of Glasgow.

Einav, L., and Finkelstein, A., 2011. Selection in Insurance Markets: Theory and Empirics in Pictures. *The Journal of Economic Perspectives, 25*(1), 115-138. doi: http://dx.doi.org/10.1257/jep.25.1.115

Euler Hermes, 2015. A Guide to Credit Insurance. http://www.eulerhermes.us/credit-insurance/Documents/EH-CreditInsurance-WhitePaper.pdf.

Fingerand, M., and Schuknecht, L., 1999. *Trade, finance and financial crises*: World Trade Organization.

Gianturco, D. E., 2001. *Export Credit Agencies: The Unsung Giants of International Trade and Finance*: Greenwood Publishing Group.

Gomes, F. A., 2004. *Export credit insurance. Comparing the Brazilian and American Models*: Institute of Brazilian Issues.

International Credit Insurance & Surety Association, 2015. *A Guide to Trade Credit Insurance*. UK: Anthem Press.

International Financial Consulting Ltd., 2012. Study on short-term trade finance and credit insurance in the European Union.

Janus, H., 2014. A history of the Berne Union. *TXF news*. http://www.txfnews.com/News/Article/2672/A-history-of-the-Berne-Union

Jones, P. M., 2010. *Trade credit insurance primer series on insurance. Global capital markets development Department*: The World Bank.

Kerer, J., Tatin-Jaleran, C., Steinhauser, L., Helmsmuller, S., Kornherr, L., Debrah, E., . . . Rakotoarimanana, A., 2016. *The potential of meso-level climate risk insurance as a risk management tool for agricultural intermediaries*: KfW Development Bank.

Krauss, R. M., 2011. The role and importance of export credit agencies. *Institute of Brazilian business and public management issues, 7*(10), 1-45.

Manova, K., and Yu, Z., 2014. *Firms and Credit Constraints along the Global Value Chain: Processing Trade in China*. Working Paper N1. Berne Union.

Olivella, P., and Vera-Hernandez, M., 2008. *Testing for Adverse Selection into Private Medical Insurance. WP06/02*: The Institute for Fiscal Studies.

Panagariya, A., 2000. Evaluating the case for export subsidies. *Policy Research Working Paper 2276*. doi: http://dx.doi.org/10.1596/1813-9450-2276

Riestra, A., 2003. *Credit Insurance in Europe. Impact, Measurement and Policy Recommendations. CEPS research report in finance and banking N 31*: Centre for European Policy Studies.

Rothschild, M., and Stiglitz, J., 1976. Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information. *The Quarterly Journal of Economics, 90*(4), 629-649. doi: http://dx.doi.org/10.2307/1885326

Sandstrom, A., 2008. *Political risk in credit evaluation. Empirical studies and survey results. WP N184*. Helsinki: Swedish School of Economics and Business Administration.

Sayer, R., 2010. *Berne Union Yearbook 2009*. London.

Shi, P., Zhang, W., and Valdez, E. A., 2012. 2012, Testing Adverse Selection with Two-Dimensional Information: Evidence from the Singapore Auto Insurance Market. *The Journal of Risk and Insurance, 79*(4), 1077-1114. doi: http://dx.doi.org/10.1111/j.1539-6975.2012.01472.x

Sokolovska, O., and Sokolovskyi, D., 2015. Market and government failures related to the introduction of tax incentives regime. *Economie si Sociologie: Revista Teoretico-Stiintifica, 4*, 17-26.

Sozen, N., and Karan, B., 2014. M., Buyukkara, G., 2014, Should Eximbanks Finance Firms with Direct Export Credits? An Empirical Study on the Credit Risk of Turk Eximbank. *Journal of Finance and Bank Management, 2*(2), 133-163.

van der Veer, K., 2015a. *Loss shocks and the quantity and price of private export credit insurance: Evidence from a global insurer*. Working Paper N462. De Nederlandsche Bank.

van der Veer, K., 2015b. The Private Export Credit Insurance Effect on Trade. *Journal of Risk and Insurance, 82*(3), 601-624.

van Dijk, J., 2012. *Export Credit Insurance: A literature review. WP N361473*: Tilburg University.

Yalcin, E., 2015. *How Do State-Backed Investment Guarantees Shape Foreign Direct Investment*. Berne Union Working Paper Series.

Copyright