The financial crisis and trading in structured products

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Abstract
This paper deals with the impact of the financial crisis on trading in structured products. The impact of the financial crisis on trading in structured products on largest European market is assessed through an analysis of various indicators such as trading volume, number of newly issued products and total number of products on the market. Thanks to the financial crisis a problem of credit risk of the issuer and its inclusion in the price of the structured products came to the forefront of interest of investors and professionals. Past and potential bankruptcies of banking institutions, the most important issuers of these products, affect the trading in structured products. The paper occupies with possible solutions how to regaining investors´ trust for segment of structured product.

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JEL codes: G010, G120, G190, G240

1. Introduction

The current financial crisis has impacted on all segments of financial markets, including the market of structured products. Some reports even call derivatives and structured products the sources of the crisis (however, it is necessary to be aware that also these financial instruments are only tools which can be used or misused for various purposes). Authors usually mean credit derivatives mainly; however, these are beyond the scope of this paper. Therefore, I consider it vital to define the term structured products as it will be used in this text.

Unfortunately, there is no single definition of structured products accepted for the practice. Structured products are defined differently from a legal perspective – where they are either derivatives or debt investment securities – and differently from an accounting perspective – where in many cases there is an embedded derivative and the structured product is then viewed as a product meeting the following conditions (Mohlzahn 2008):

- one product combines cash flows of more than one basic financial instrument;
- this product contains one component which is not a derivative and at least one component which is a derivative;
- individual elements of the product form a legal unit and cannot be separately either transferred to another party or concluded with different contract parties.

However, for our purposes this definition is incomplete as it does not cover all investigated products. For example, warrants or index certificates are considered structured products by most authors and exchanges, yet they would not meet the above mentioned definition.

Therefore, we are going to view structured products in a way similar to Blümke (2009): "structured products are financial assets, which consist of various elemental components, combined to generate a specific risk-return profile adapted to an investor's needs."

In this sense and in agreement with Svoboda and Rozumek (2005) or stock exchanges where structured products are traded in Germany and Switzerland (Scoach – Frankfurt, Zürich, EUWAX -

Stuttgart), by structured products we will understand investment products (investment certificates and reverse convertibles) and leverage products (warrants and knock-out products).

The author's original intention was to perform a comparative analysis of indicators related to trading structured products at individual national exchange markets within the EU. Due to the unavailability of public data at these markets, in many cases also due to a low liquidity of these markets (e.g. Prague Stock Exchange), this intention had to be abandoned and the focus has shifted on the largest and most developed national market with structured products: the German market. Considering its significance, the author is of the opinion that its investigation will be sufficiently representative. The market with structured products in the Czech Republic was established as late as at the end of 2006 and due to its low liquidity results of its investigation would not be able to provide sufficiently relevant information. In the further text, we are going to examine exchange markets.

Before the financial crisis the segment of modern structured products – as it used to be referred to – was gaining in popularity and going through a continuous boom. Volumes of trades with structured products grew each year as well as the number of issued and offered products and the proportion of these products in investors' portfolios. One of the few problems structured products had to face was the fact that for marketing reasons many issuers, which are especially large banking houses, referred to the same structure with different names. Due to the number of possible combinations of financial instruments and the number of issuers, for a retail investor this segment of financial instruments became an impenetrable jungle, which made orientation and thus finding the optimum investment strategies by means of these products difficult. For this reason, various associations and organizations of issuers started to spring up (Deutscher Derivate Verband in Germany, Schweizerischer Verband für Strukturierte Produkte in Switzerland, Zerfitikate Forum in Austria), which aimed to increase the transparency and standardize names for the products. No other more serious problems related to trading with structured products were observed until the financial crisis.

Naturally, during the financial crisis also the segment of structured products was affected by the developments in capital markets, among others due to the rapid decrease in the value of stocks or indices, which are often underlying assets or constructional elements of structured products. After the fall of Lehman Brothers, the bank which was one of the issuers of structured products, one of the risks which had not been devoted sufficient attention came forth – the issuer risk (the credit risk). In the period of growth nobody had considered the risk of credit failure of large banking houses with branches all around the world. Such institutions had usually been considered "too big to fail".

Until the financial crisis started, there had been no single case that a product would not be paid up. However, on the day of the bankruptcy of the first structured products issuer, the situation changed substantially. The trust in the certificate industry (certificates are a form of structured products) was immensely shaken. Many investors lost their entire invested capital. The consequences of these events affected not only the portfolio of investors but also sellers of structured products and financial mediators who suddenly had to deal with a large number of lawsuits filed by investors complaining that they had neglected their information obligation and had not warned against the risk of a default of an issuing institution.

The following chapters focus on the development of trading with structured products from the pre-crisis period until today; we are going to investigate the influence of the financial crisis on trading with structured products and its consequences; and we will also try to forecast possible future tendencies and ways in which this segment of financial instruments could reestablish investors' trust.

2. The Effect of the Financial Crisis on Trading with Structured Products

The object of examination is structured products traded at two largest exchange markets with structured products in Germany – the Stuttgart stock exchange (EUWAX) and the Frankfurt stock exchange (Scoach Europa AG). The source of data of stock exchanges trading volumes are annual and monthly statistics published by the association of issuers of structured products in Germany

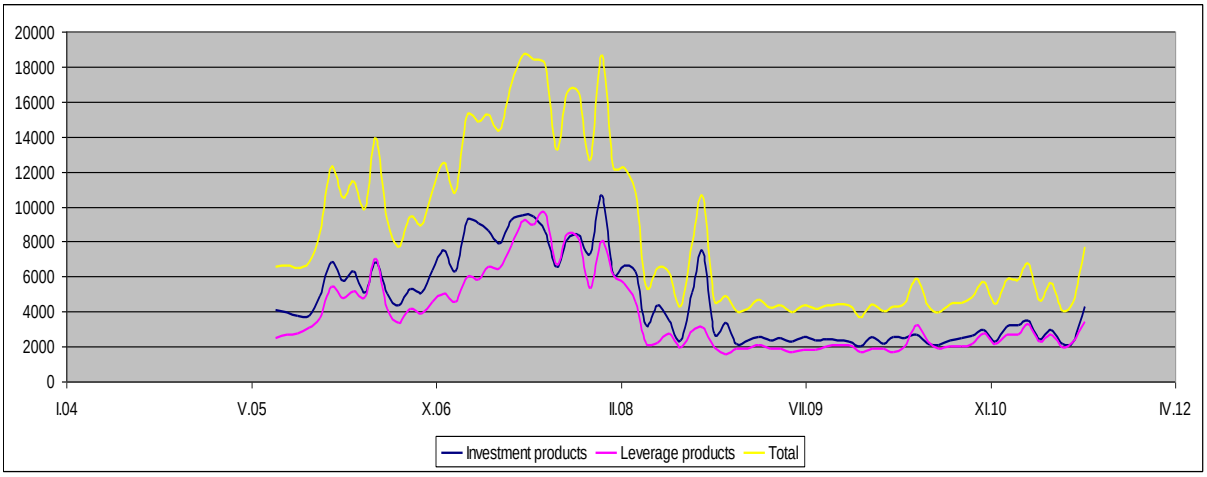
"Deutscher Derivate Verband", which gains the data from both original sources - Xetra and XONTRO (DDV, 2011).

In our study into the effect of the financial crisis on trading with structured products, we are mainly going to examine the indicator of trading volumes on a monthly basis from August 2005 to August 2011 (unfortunately, available sources do not provide data for a longer period). The monitored volumes will be both volumes of trades in dependence on the type of structured products and volumes of trades in dependence on underlying assets of individual types of structured products; further, we will explore indicators of the number of newly issued products in a particular month and the total number of products on the market in a particular month. Another considered indicator was the number of clients' orders in a month. Unfortunately, only data from 2010 are available for this indicator, which means an insufficient information capacity for our purposes. Therefore, this indicator was not taken into account in the paper.

The first indicator we are interested in regarding the effect of the financial crisis on trading with structured products is the volume of trades with structured products in total and the development of the indicator for two main groups of structured products – investment and leverage products. Graph 1 presented below displays the above mentioned situation and the expected assumption that until 2007 the volumes of trades with structured products increased. At the beginning of 2008 there is a huge slump in trading volumes, which deepens further in the following months.

In September and October 2008 the decreasing trend seemed to be reverting but due to further events in financial markets and the bankruptcy of Lehman Brothers in September 2008 the trading volumes dropped again and the value of this indicator has been stagnating since then. The decrease in the volumes of trades can be considered from two perspectives. First, the number of implemented trades has decreased; second, also the value of most financial assets which are underlying assets of structured products has been decreasing and with this also the value of structured products for which they are sold and purchased (naturally, except the forms of structured products which allow positive participation in dropping markets).

Figure 1: Trading volume of structured products in mil. EUR

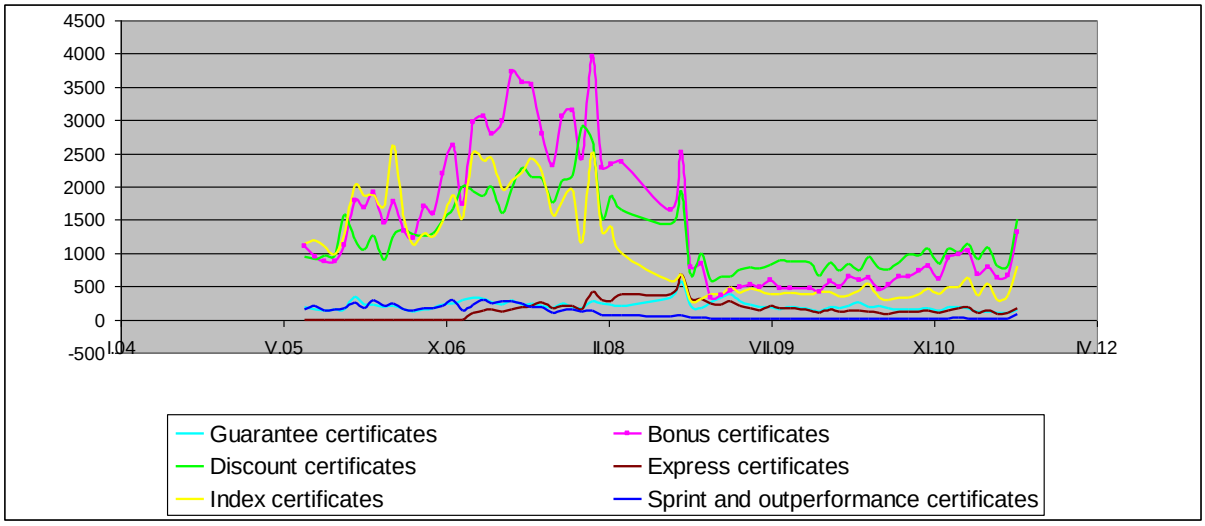


Source: author's calculations according to "Deutscher Derivate Verband"

Comparing the two main groups of structured products, investment and leverage products, we can see similar developments. The volume of trades with investment products before and during the crisis was usually higher than the volume of trades with leverage products. In September and October 2008 we can notice a rapid increase in the volume of trades with investment products; after that the trading volumes of both groups are comparable and develop in a similar way. As we will see in graph 2, the mentioned increase in trading volumes in September and October 2008 was mainly motivated by

discount and bonus certificates. Both of these products are products with a partial guarantee of invested capital, which reflects investors' increased aversion to risk. Regarding the discount certificates, also higher volatility in financial markets plays a role and thanks to the fact that the structure of the product contains a sold call option, discount certificates offer attractive discounts in a period of high volatility compared to direct investments in an underlying asset.

Figure 2: Trading volume of selected types of investment certificates in mil. EUR

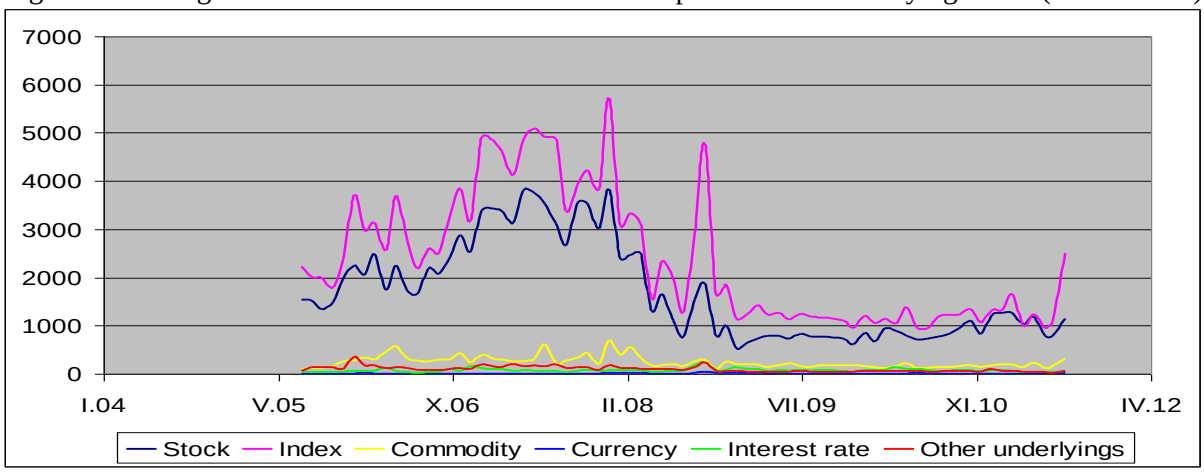


Source: author's calculations according to "Deutscher Derivate Verband"

Looking at figure 2 it is obvious that in the long term the most traded investment products are those with the simplest structures as these are easy to understand and transparent to trace by investors. The most traded segment used to be index certificates for a long time; however, in 2005 first bonus certificates were issued and took the lead. No less significant a structure is discount certificates which became the most traded type of investment structured products for the above mentioned reasons between 2008 and 2009.

The following three figures document the trading volumes of structured products within investment and leverage products less in dependence on their types but rather in dependence on the underlying assets they are related to. Leverage products are divided into warrants and knock-out products.

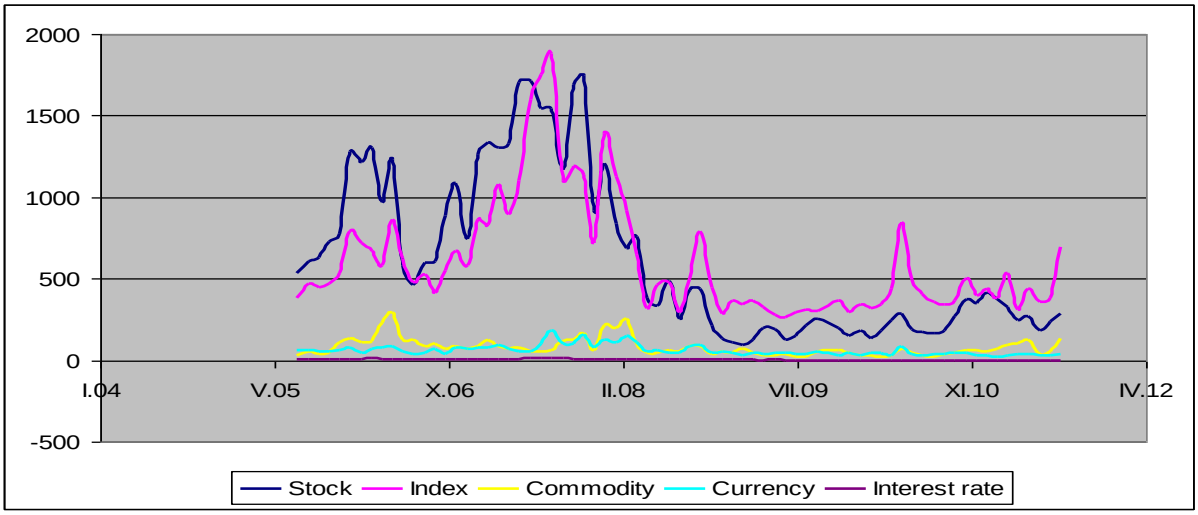
Figure 3: Trading volume of investment certificates in dependence on underlying assets (in mil. EUR)



Source: author's calculations according to "Deutscher Derivate Verband"

Both for investment products and leverage products we can state that the most traded instruments are those whose underlying assets are indices. It means, as regards distribution among various underlying assets, not even the financial crisis changed this for investment products.

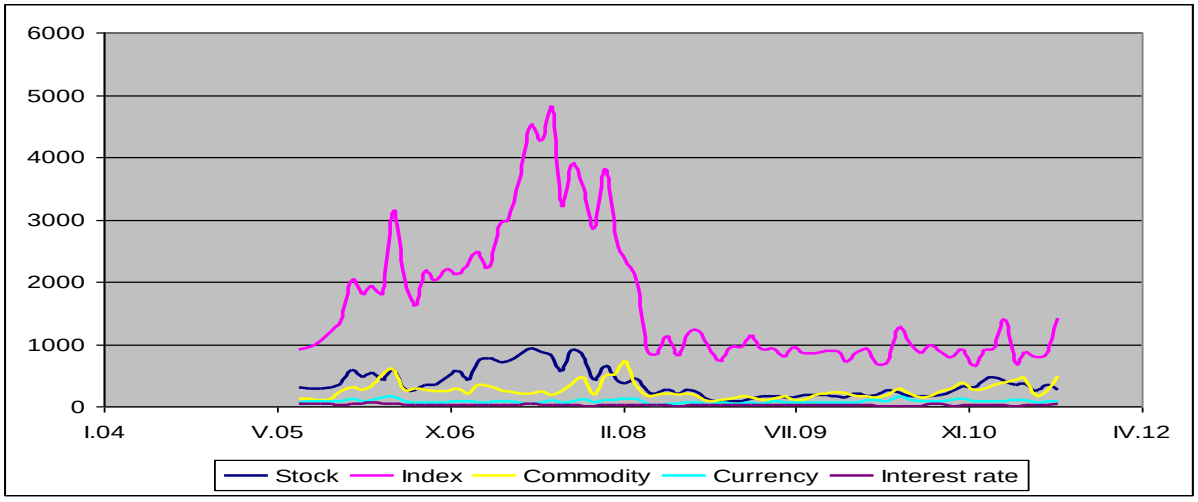
Figure 4: Trading volume of warrants in dependence on underlying assets (in mil. EUR)



Source: author's calculations according to "Deutscher Derivate Verband"

However, the situation is different for warrants – before the crisis the products with underlying stocks were traded more whereas after the crisis focus turned to products whose underlying assets are indices. As regards knock-out products, the most traded products remain those with underlying indices, although during the crisis the proportions changed, which lasts until today.

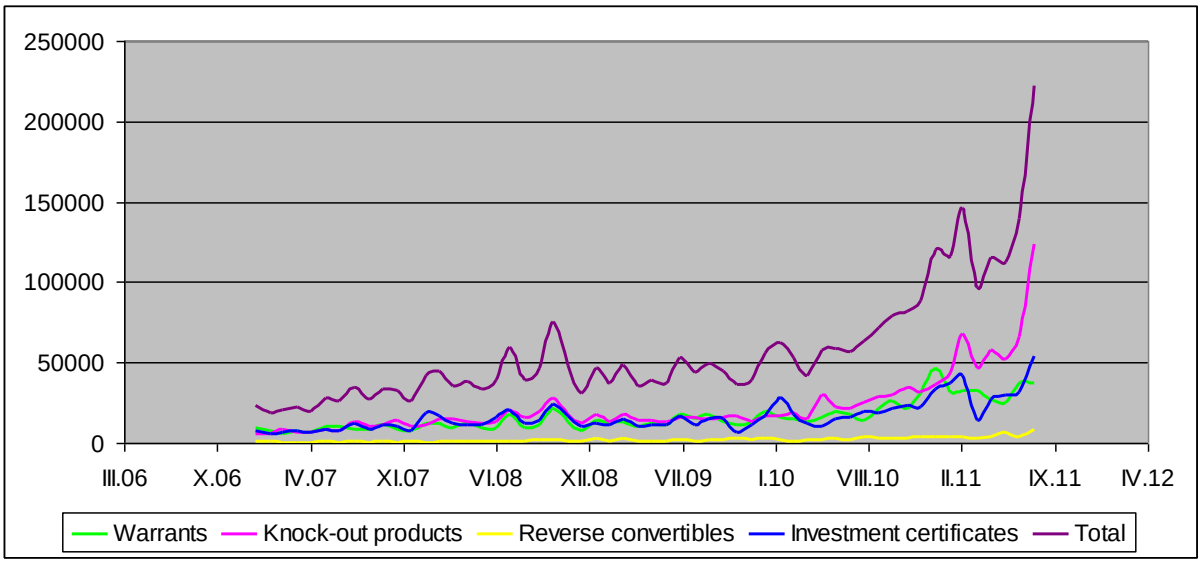
Figure 5: Trading volume of knock-out products in dependence on underlying assets (in mil. EUR)



Source: author's calculations according to "Deutscher Derivate Verband"

Besides the volume of trades, we also examine the indicator of the number of newly issued products and the total number of products on the market (the number of issued products before maturity which can be traded in particular exchange markets). The first indicator shows that the issue activity of issuers at the beginning of the financial crisis, during the crisis and until today has not reduced, rather the opposite. It is understandable that issuers try to gain foreign capital in the form of subscribed structured products from investors at times of financial troubles.

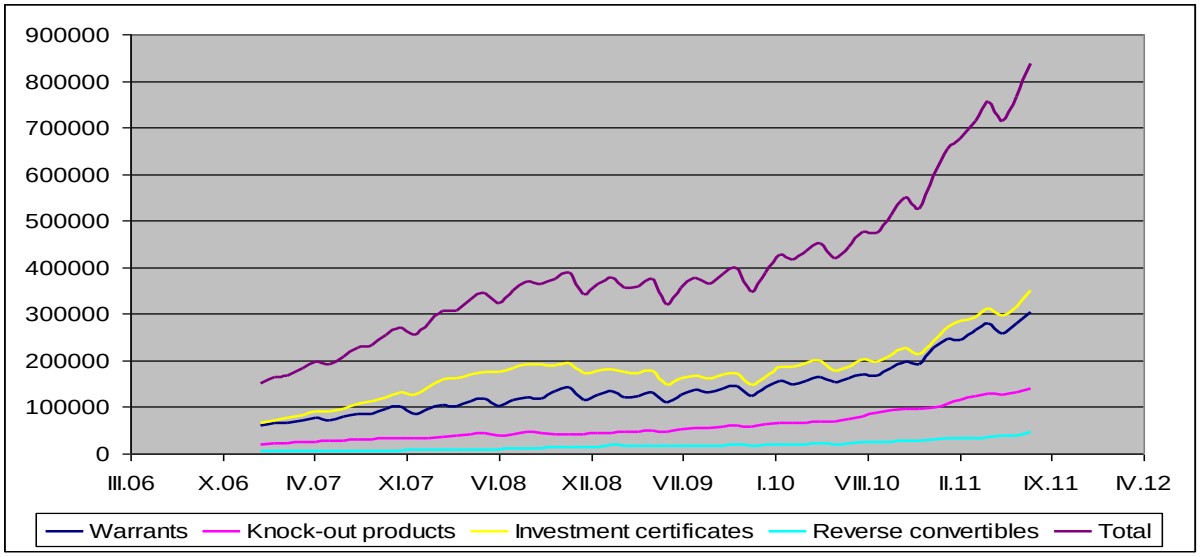
Figure 6: Number of newly issued products (in pieces)



Source: author's calculations according to "Deutscher Derivate Verband"

Figure 7 presents the total number of products on the market in particular months. It is necessary to realize that the total number of products on the market in a particular month, or changes in the number, is affected by the number of newly issued products in the month, the number of products which become due as well as the number of products paid up before their maturity date. Products paid up before maturity date will be mainly knock-out products in which the barrier was reached. This practically means the end of trading with the product, its pay up and settlement. However, besides knock-out products, these can be also other products whose issue conditions allow paying up before maturity date, e.g. express certificates. Considering the fact that the number of products on the market has been rising continually (mainly since about 2009) and the volume of trades with these products has been stagnating, we can deduce that structured products are traded less. This cannot be explained by a higher or lower interest in leverage structured products, which are used rather for speculative trades, because the volume of trades of leverage and investment products and their proportions do not really change. We could think that more products are held to their maturity date than traded during their validity.

Figure 7: Total number of products on the market in particular months (in pieces)



Source: author's calculations according to "Deutscher Derivate Verband"

3. Lessons Learned from the Financial Crisis regarding Trading with Structured Products

When trading structured products, the issuer risk (credit risk) cannot be neglected. This risk does not affect the price of structured products, yet it can lead to a loss of all invested means if the issuer goes bankrupt because in the case of structured products the issuer's equity is not separated from investors' means, which is the case with e.g. mutual funds. When purchasing structured products, the retail investor should be informed about this risk by the seller (either the issuer or a financial mediator). Moreover, besides usual diversification (asset classes, underlying assets, regional diversification, field diversification, etc.), investors using structured products should distribute their investments among more issuers. A question remains whether the risk should be included in the valuation of structured products and in what way.

In the effort to win trust back and to reduce the risk from the side of issuers, a new segment of structured products has originated at the stock exchange Scoach in Switzerland and later in Germany – COSI (Collateral secured certificates). Collateral-secured products are certificates with additional security backing for protection against issuer-default risk. The products offered within this segment are slightly more expensive but every day the issuer is obliged to render collateral with a value higher than the current value of the certificate or structured product and in the case of the issuer's bankruptcy the collateral can be sold and the creditor's claims satisfied.

The European Commission (2009) finds flaws in the regulation of retail structured products (compare with Communication from the Commission to the European Parliament and the Council – COM/2009/0204 – Packaged Retail Investment Products). The Commission mentions in this communication that "financial crisis has provided a stark reminder of the importance of transparency in financial products and of the potential costs of irresponsible selling. A collapse in investor confidence has underlined the urgency of ensuring the right regulatory framework is in place, so that the rebuilding of confidence can occur on a sound basis".

The Commission endeavors by its measures to increase the transparency of structured products and enhance information provided to investors. These efforts found practical application e.g. in the association of issuers Deutscher Derivate Verband, which has implemented a standardized information prospectus for all members about all types of structured products within its transparency policy (DDV, 2011). The prospectus respects the above mentioned Commission's requirements.

The financial crisis had a profound impact on trading in structured products. Due to the decrease in the value of underlying assets and thus the value of structured products as well as due to the lower number of clients' orders during the period of financial crisis escalation, the volume of trades with structured products dropped and the value of this indicator has been stagnating until the present. The proportions of particular types of structured products at the market with structured products have changed – the most traded products are those with partial guarantee of the invested capital, especially discount certificates as the current environment with high volatility is favorable for them. However, the issue activity of issuers has not stopped as they have been trying to deal with the situation by innovation and regaining of investors' trust.

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