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A.A. Kussainova[1], Waldemar Kozlowski[2], I.P.Gerashchenko[3]

[1]Kokshetau state university named after Sh. Ualikhanov, Kokshetau, Kazakhstan;
[2] University of Warmia and Mazury, Poland;
[3] Omsk State Pedagogical University named after F.M. Dostoevsky, Omsk, Russian Federation
kusainova-76@bk.ru; wkozlowski@yandex.ru; ip_gerashchenko@gmail.com

DEVELOPMENT OF INNOVATIVE INSURANCE PRODUCTS OF THE FINANCIAL MARKET

Abstract. Innovative insurance products of the financial market are considered. Stages of development of financial insurance derivatives are allocated. Traditional derivative financial insurance instruments - swaps, forwards and the futures which were widely adopted as tools on management and insurance of risks, and nonconventional financial insurance instruments are discussed: the percentage and credit derivatives, forward and option bonds, based on combination of securities and financial transactions. The efficiency of use in activity of the companies of the innovative insurance structured products of the financial market was proved. Opportunities, merits and demerits of traditional and synthetic securitization were analyzed. Possibilities of cryptocurrencies as innovative product of the financial market are discussed. The conclusion is drawn that today the worked concept on use of innovative potential of insurance instruments of the world financial market at strategic modeling of activity of the company is necessary. The strategic modeling which is based on innovative solutions in the field of primary activity of the company is capable to bring optimum results only under the condition of innovative solutions of the primary activity of the company, optimum connected to innovative solutions in the field of strategy hedging by financial derivatives.

Keywords: innovations, insurance products, financial market, insurance derivatives, traditional financial insurance instruments, swaps, forwards, futures, insurance of risks, option bonds.

Financial innovations are the tools and methods applied by the companies and financial intermediaries for the purpose of implementation of new operations with acting to assets or transactions with new types of financial assets, the financial resources of the companies and financial intermediaries and to hedge the arising risks of investment and crediting allowing using more effectively. Financial innovations should be considered in the quality of the most obvious and important tendency of modern development of the financial markets. Any of the last periods of evolution of financial institutions hasn't been noted by such variety of innovations[1, P.15]. The growing interaction between insurers and the capital markets with the purpose of transferring insurance risk to institutional investors. In this interaction, we distinguish two dimensions: financial dimension relating to the optimization of the capital structure and strength (capital rising), and more insurance-specific dimension (insurance risk transfer, resulting in capital relief).

Most of the capital market deals for insurance companies are still primarily financially driven. To strengthen their capital position, companies can raise equity or debt, and more recently also hybrid capital. The insurance sector is capable of raising substantial amounts of equity in the market. Moreover, the access to the debt markets has improved substantially for insurers over the last few years[2, P.58].

The market has gained a better insight into the credit risk for insurers. Pricing of senior debt transactions has become a more standardized practice. Overall, the credit spread of debt transactions in insurance is fairly similar to the credit spread in banking. Where in the past, insurers without a strong credit rating had to rely on reinsurance; they can today more easily issue debt in the market place [3, P.16].

Hybrid capital is being raised in all different sorts and formats, with the quality of the hybrid capital covering the broad area between equity and bonds. Hybrids make up for a large part of the primary capital market transactions in insurance. The structures of the deals are still very much governed by national

legislations and regulators. Some structures are not allowed in certain countries and similar structures can have very different tax implications, impacting the returns for issuers (and investors). National regulators and rating agencies set their rules for the level of acceptance of hybrid financing. These rules are still evolving. Generally, a 15 per cent level is accepted; however, there are examples of a higher level of acceptance. This necessitates a permanent and constructive discussion between the insurance industry, the regulators and the rating agencies.

Use of products of financial engineering - the financial innovations and innovative insurance products of the financial market leaning on derivatives and strategic hedging changes traditional idea of formation of financial resources of the companies. Financial innovations and innovative insurance products of the financial market allow shifting and diversifying risks, giving the chance to the companies to get on before inaccessible markets and allow investors and issuers to bypass the tax law. The companies thanks to financial innovations can issue of securities to occupy concrete niche in the market of the capitals and to raise funds at lower price at identical risk. Therefore researches in the market of financial innovations, innovative insurance products of the financial market and their approbation in practice are the most relevant kind of activity of financial engineering today.

Securitization in banking aims at transferring the risks linked to certain assets to the capital markets, whereas the risks to transfer in insurance are typically linked to liabilities. Through the securitization of insurance risk, an insurance company transfers underwriting risks to the capital markets by transforming underwriting cash flows into tradeable financial securities. The cash flows resulting from the securities issued are contingent upon an insurance event or risk. When an insurer underwrites a risk, he has to decide on the adequate pricing of accepting that risk. Risk acceptance has immediate consequences for the capital structure of insurance companies. Each insurer has to balance through his capital management the interests of his stakeholders (policyholders, shareholders, bondholders, regulators) and his risks with his solvency. When the insurer accepts a risk, he can decide to keep the risk on his books, or pass (part of) the risk on to his reinsurance providers (table1).

Table1 - Development of financial insurance innovations

1980–1990	1990–2000	2000-2010	2010-2018
– swaps; – currency options; – options for futures; – bonds with the built-in options.	– collaroptions; – creditswaps; – svoptsions; – the swaps indexed on actions; – portfolioswaps.	– hedgederivatives; – traditionalsecuritizationofa ssets; – syntheticsecuritizationofass ets.	– thestructuredproducts; – cryptocurrencies.

The innovative combination of instruments of the financial market allowing to design various innovative financial products - the share and currency markets, urgent and credit, financial insurance innovations and the capital market, etc. - for the purpose of increase in profitability of the company, attraction of investment resources, increase in sales volume, insurance of possible financial and innovative risks, financial and credit ensuring strategic innovative activity of the companies, etc. As an example of such combination it is possible to allocate svoptsiona, credit swaps, traditional and synthetic securitization, leasing options, forfaiting, etc.(table1).

We will consider consistently innovative insurance products of the world financial markets. Traditional derivatives - swaps, forwards and futures were widely adopted as tools on management and insurance of risks. Securitization creates the possibility of separating the insurance policy origination function from the investment management, policy servicing and risk bearing functions, thereby enabling insurers to make a more efficient use of their capital resources. For longevity risk, an interesting case could be made for offsetting the opposite impact of mortality improvements on annuity providers and life insurance providers[4, P.44]. If longevity risk is to be traded successfully in the capital markets, market participants with opposite interests are essential.Securities based on catastrophic property, mortality and longevity risk are no redundant: the covered events are not otherwise traded in the securities markets. Securities based on these risks also are likely to have relatively low covariance with market systemic risk, making them valuable for diversification purposes. Investors can improve portfolio efficiency by adding these securities to their portfolios. But the market may continue to grow slowly as the more complicated

transactions require substantial time, cost and energy. The innovative character of the considered derivatives is connected not so much with use of share tools in practice of relationship of the companies and financial intermediaries how many with a possibility of their combination to other securities and financial transactions. It is possible to carry bonds and the credits, face value or percentage payments on which depend on prices for products, i.e. innovative combination of derivative securities and percentage agreements (percentage derivatives), association of the bank credits and derivative securities (credit derivatives) and also forward and option bonds to them [5, P.493]. Such associations allow the companies to hedge risks market, operational and credit that positively affects financial stability. For example, on forward bonds of payment of coupons and/or face value it is made in a money equivalent of market price of goods at its fixed volume. The option attached to the bond allows buying goods at the price determined in the contract in a size equal to coupon payments or face value of this bond [6, P.35].In the conditions of instability of prices for products of the companies these mechanisms of hedging of price risks in the medium-term period are rather relevant. The combination of swaps, options, forwards with bonds, the credits and percentage agreements will allow the company not only to hedge financial risks, but also to enter the new capital markets, minimizing the cost of the attracted financing. Use of innovative tools which payments are tied to the market price of production of the company allow to improve solvency of the company and also lead to improvement of conditions of financing - a smaller rate, the repayment period is more.We will consider efficiency of schemes of innovative insurance products on the example of association of the credits and commodity swaps. We will assume, the gold mining company takes the credit in foreign bank for the sum of 264,6mln. dollars under 6,5% per annum for three years, payment conditions - equal semi-annual payments. At the same time the bank (or other financial intermediary) concludes the swap contract with the company under which within the next three years pays the companies the fixed price for the gold, and in exchange receives floating. The bank fixes the price in the swap contract at the level of 19,7 dollars for gram and semi-annual volume of gold of equal 2,5 tons. The company creates the special account on which funds from sale of gold are accumulated in bank and calculations for a swap (tab. 2) are performed. The analysis of calculations shows that the first year the bank is forced to pay in addition under the contract 24,03mln. dollars whereas two next years the bank gets profit in the sum of 25,81 mln. dollars, but it without discounting. Taking into account discounting on rates of 6,5%, losses of bank will make 1,21 mln. dollars. This innovative scheme of association of a commodity swap and credit is favorable to the company since the effective rate was 6,34% that has allowed the company to reduce the cost of the attracted capital and to hedge price risks in the gold market.

Table 2 - Payments for a credit swap of the gold mining company

Market price of gold on LBM, US dollars	Revenue, mln. doll.	Calculations for a swap, mln. doll.	Payments for the credit, mln. doll.
14,04	35,09	14,16	49,25
15,75	39,38	9,87	49,25
20,70	51,75	2,50	49,25
20,57	51,42	2,17	49,25
21,05	52,63	3,38	49,25
26,81	67,01	17,76	49,25

The innovative combination of the existing credit and financial tools can be tracked on the basis of percentage derivatives. The main difference of percentage derivatives from other derivative financial tools is that as subject of such transactions serves change of interest rates in this or that side. Percentage derivatives are types of urgent contracts for delivery in the future of certain interest rates. Use of percentage derivatives allows investors to fix profitability, according to corporate or state obligations and borrowers, to be protected from increase in interest rates. Most in the developed markets the following types of percentage derivatives were widely used: percentage swaps, agreements on future interest rate of FRA, options “cap” and “florae”.

More recently, insurance companies started using risk securitization techniques for transferring insurance risk to the capital markets. In general, the capital markets have the potential to help the insurance market by providing additional capacity beyond what is available from the reinsurance market. The overall reinsurance capacity is set by the access of the reinsurers to the capital markets. The insurance risk transfer to the capital markets is still very much the market in development. Insurance securitizations are in fact complementing the traditional reinsurance [7, P.77].

Life securitization is expected to develop in the following areas: capital release through embedded value securitization, financing of new business activities, productspecific applications, mortality and longevity risk. Embedded value deals provide insurers with the opportunity to unlock the embedded profits in blocks of life insurance presently carried on balance sheet and to provide an alternative source of financing in an industry, where traditional financing mechanisms are often restricted due to regulation. The essential objective is to sell the future profit stream without going through the sale of the life book. Unlike other alternative risk transfer devices, this securitization is not essentially a risk transfer device - it is predominantly device to monetize the profits inherent in already-contracted life insurance policies. In the securitization deals that hit the market to date, the transfer of value still prevailed over the transfer of life risk.

Longevity risk - the paradoxical risk of living too long - is becoming a major challenge for insurers and pension funds. What is important is not the average life expectancy but rather the life expectancy past the age of retirement, when workers cease to be economically active. And it is among this population that life expectancy is rising fastest. While annuity providers and pension schemes have risk management tools to protect them from adverse movements in markets and rates, there are no tools to shield them from rising life expectancy.

The exact statistics of volume of the world market of percentage derivatives doesn't exist as the considerable part of bargains is concluded in the off-exchange market [8, P.227]. But in the developed markets there was already infrastructure of the financial institutions and banks providing services in hedging of percentage risks therefore at the request for financial means in foreign banks, the company can hedge the arising percentage risks through percentage derivatives. For example, the combination of the credit agreement and a caption-credit will allow the company to hedge risk of increase in a credit rate that it is relevant at the time of turbulence of the world financial markets since fixes the maximum interest rate for the credit on in advance stipulated value. It will allow the company to distribute rationally income and to amortize the credit without additional cost of percentage payments.

Overall, the effective insurance risk transfer to the capital markets is still very limited. We can say that securitization in insurance is in its experimental development phase, comparable to where the banking industry stood some 20 years ago. The limited number of transactions makes it difficult to establish a broad investor base that is sufficiently familiar with the specificities of holding insurance risk. Despite the relatively small volume of insurance securitization transactions to date, securitization has significant potential to improve market efficiency and capital utilization in the insurance industry.

According to Bank of International Settlements, as of July 1, 2017 the nominal size of the market of derivatives was 710 trillion dollars, and 48% have fallen to the share of credit swaps. Credit derivatives are trading only in the off-exchange market, at the same time about 40% of all market turnover are concentrated in London [9, P.26]. The main participants of the market of credit derivatives are banks, insurance companies, hedge funds and the pension funds.

The innovative combination of credit operations, securities and credit derivatives was most shown in the main innovative process of the world financial market of the end of the XX century - securitization which has provided superiority to share values in their immemorial dispute with the credit concerning the most favorable way of loan of financial resources: by means of share operations or through bank crediting. In practice of securitization use is allocated two basic types of securitization of assets: traditional and synthetic securitizations [10, P.57].

Traditional securitization is a process of transformation of illiquid assets in the turned securities, such as commercial papers, bills or other debt obligations. Traditional securitization assets is an innovative technology of financing at which the diversified pool of financial assets is allocated it (is written off) from balance of the company or bank, gains legal independence by transfer to specially created legal entity SPV (Special Purpose Vehicle), which carries out his refinancing in the international market of the capitals or

the monetary market by means of issue of securities. Usually carry to the assets captured by traditional securitization for the companies: leasing payments, receivables, receipts under commercial contracts and other. At the same time the list of assets which securitization is potentially productive can't be overestimated. Here any monetary income (receipts) which the company plans to take in the long term as a result of the functioning can organically fit in. It is especially necessary to note that at securitization the assets generating income are used only.

In the conclusion we would like to stress, that the analysis of innovative processes of the end of XX and the beginning of the XXI centuries in the world financial markets shows that the companies of the real sector of economy can't stand away from global processes any more that the worked concept on use of innovative potential of insurance instruments of the world financial market at strategic modeling of activity of the company is necessary. The strategic modeling, which is based on innovative solutions in the field of primary activity of the company, is capable to bring optimum results only under the condition, if innovative solutions of primary activity of the company are optimum connected to innovative solutions in the field of strategy hedging by financial derivatives. Thus, forming the financial strategy needs the special attention to pay and create of innovative schemes of attraction of innovative insurance products of the financial market.

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А. А. Құсайынова, Вальдемар Козловски, И. П. Геращенко

ҚАРЖЫ НАРЫҒЫНЫҢ ИННОВАЦИЯЛЫҚ САҚТАНДЫРУ ӨНІМДЕРІН ДАМЫТУ

Аннотация. Қаржы нарығының инновациялық сақтандыру өнімдері қарастырылған. Қар-жылық сақтандыру туынды құралдарын дамыту сатылары белгіленген. Дәстүрлі деривативті қаржылық сақтандыру құралдары - тәуекелдерді басқару және тәуекелдерді басқару құралдары ретінде кеңінен таралатын своптар, форвардтар және фьючерстер, сондай-ақ дәстүрлі емес қаржылық сақтандыру құралдары: пайыздық және кредиттік туынды құралдар, форвардтық және опциондық облигациялар, бағалы қағаздар мен қаржы операцияларын біріктіруге негізделген своптар талқыланады. Компанияның қызметінде қаржы нарығының инновациялық сақтандыру құрылымдық өнімдерін қолданудың тиімділігі дәлелденді. Дәстүрлі және синтетикалық секьюритизацияның мүмкіндіктері, артықшылықтары мен кемшіліктері талданады. Қаржы нарығының инновациялық өнімі ретінде крипто валютасының мүмкіндіктері талқыланады. Бүгінгі күні компанияның әлемдік қаржы нарығының сақтандырудың инновациялық әлеуетін пайдалану туралы жақсы тұжырымдамасы қажет, ол компанияның қызметін стратегиялық модельдеу қажет екендігі қорытындыланады. Компанияның негізгі бизнесі саласындағы инновациялық шешімдерге негізделген стратегиялық

модельдеу, компанияның негізгі бизнесіне инновациялық шешімдер хеджирлеу стратегиясының қаржы туындыларымен инновациялық шешімдермен оңтайлы байланысты болған жағдайда оңтайлы нәтижелерге әкеледі.

Түйін сөздер: инновациялар, сақтандыру өнімдері, қаржы нарығы, сақтандыру деривативтер, дәстүрлі қаржылық сақтандыру құралдары, своптар, форвардтар, фьючерстер, тәуекелдерді сақтандыру, опциондық облигациялар.

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А.А.Кусаинова[1], Вальдемар Козловски[2], И.П. Геращенко[3]

[1]Кокшетауский государственный университет имени Ш.Уалиханова, Кокшетау, Казахстан;
[2] Университет Вармиа и Мазуру, Польша;
[3] Омский государственный педагогический университет им. Ф.М. Достоевского, Омск, Россия

РАЗВИТИЕ ИННОВАЦИОННЫХ СТРАХОВЫХ ПРОДУКТОВ ФИНАНСОВОГО РЫНКА

Аннотация. Рассмотрены инновационные страховые продукты финансового рынка. Выделены этапы развития финансовых страховых деривативов. Обсуждаются традиционные производные финансовые страховые инструменты – свопы, форварды и фьючерсы, получившие широкое распространение как инструменты по управлению и страхованию рисками, и нетрадиционные финансовые страховые инструменты: процентные и кредитные деривативы, форвардные и опционные облигации, свопционы, основанные на объединении ценных бумаг и финансовых операций. Доказана эффективность использования в деятельности компаний инновационных страховых структурированных продуктов финансового рынка. Анализируются возможности, достоинства и недостатки традиционной и синтетической секьюритизации. Обсуждаются возможности криптовалют как инновационного продукта финансового рынка. Сделан вывод о том, что сегодня необходима проработанная концепция по использованию инновационного потенциала страховых инструментов мирового финансового рынка при стратегическом моделировании деятельности компании. Стратегическое моделирование, базирующееся на инновационных решениях в области основной деятельности компании, способно принести оптимальные результаты только при условии, если инновационные решения основной деятельности компании будут оптимально соединены с инновационными решениями в области хеджирования стратегии финансовыми деривативами.

Ключевые слова: инновации, страховые продукты, финансовый рынок, страховые деривативы, традиционные финансовые страховые инструменты, свопы, форварды, фьючерсы, страхование рисков, опционные облигации.

Information about authors:

Kussainova A.A. - Senior teacher, chair of financeand management, Kokshetaustate university named after Sh.Ualikhanov, Kazakhstan, Kokshetau;

Waldemar Kozlowski - assistan professor in economy, University of Warmia and Mazury, Olsztyn, Department of Business Economics, Poland;

Gerashchenko I.P.- Doctor of economy, professor, chair of marketing and advertizing, Omsk State Pedagogical University named after F.M. Dostoevsky, Department of international business, Russian Federation, Omsk