

## **CREDIT RISK TRANSFER AS A MECHANISM OF PROTECTION AGAINST RISKS**

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**Abstract.** *Increasing instability within the operations of financial markets, primarily in the banking sector, has led to the regulatory authorities' deciding to adopt a set of new regulations to ensure that the operations in the financial sector stabilize and prevent the frequent crisis. One of the key rules that are imposed on banks is disposal of mandatory capital, which has a protective role in terms of financial defense position of banks in case of emergencies. The amount of regulatory capital is directly linked to loans risk, primarily, loans of the banks, which have encouraged banks to engage in more secure investments. However, the required capital has reduced the possibility of bank lending and thus significantly affects their profitability. Considering that they could not ignore the imposed rules, the banks have found escape from this situation in new mechanism of operation, so called transfer credit risk. They have decided that certain loans, particularly risk ones, which hold a significant amount of regulatory capital and thus reduce the bank's investment potential, be secured, i.e. converted into securities and then sold on the market. Therefore, the essence of this work is to become acquainted with the process of credit risk transfer, its instruments and the reasons for its implementation, as well as financial institutions, which are involved in this process.*

**Key Words:** *credit risk transfer, securitization, banks, hedge funds, instruments of credit risk transfer*

### INTRODUCTION

Banks and other lenders often make transfer of credit risk, in order to release capital for new investments in the affairs of intermediation, i.e. intervention in the market. In fact, in recent decades, in order to protect the stability of the banking system, a legislation was passed, which imposed on banks that, in order to protect against risk, they have a certain amount of capital according to the risk of their investments. Accordingly, transfer of credit risk over time emerged as an excellent mechanism for eliminating some, particularly high-

risk, loans from the balance sheet, thereby reducing the share of risky assets, and thus the amount of regulatory capital, and leading to new funds for further investments.

Besides allowing creditors to save on the expensive capital, credit risk transfer improves the financial stability by dispersion of risk to many investors. In that way banks can replace a large potential exposure to smaller and more diversified exposure. Even though the overall risk, which is to be transferred, remains in the banking system, transfer of credit risk allows banks to hold less risk due to diversification. The practice is part of the risk eliminated from the banking system, the transfer of institutional investors, hedge funds and other specialized financial institutions.

Transfer of credit risk can be considered successfully only if it leads to more efficient use of capital by the creditors, because then a larger amount of money is available for loans to make loans cheaper and therefore it will have a positive impact on macroeconomic developments, it will launch a long-term economic growth. Huge market growth of credit transfer is something that is increasingly attracting the attention of experts. Credit risk transfer (CTR) instruments include a wide range of products and forms of financing, and all of that together is often called loan securitization. Market participants either buy or sell protection against risks; buyer protection receives a certain amount of money, while the amount the seller has to pay. This customer care, i.e. seller securitized loan achieved its objective, the release of its assets from risk assets and release capital needed for further investments. On the other hand, the protection seller assumes the risk that a few credits will not be collected, but also the possibility of significant wage gains compared to the amount that was paid to purchase loans.

In order for the mechanism of credit risk transfer to become a legitimate means of protection against risks in banks, it is necessary for the existence of a powerful market for that purpose that year showed signs of increasing growth. However, this is not the growth market, which took place in itself, without analysis of its complexity, it is a matter directly related to market structure, product diversity liquidity, complexity, quality basic risks, and the role and quality of big customers (banks, insurance companies, hedge funds). The intention of this paper is the presentation of the complexity of the issue, perceiving it from different aspects, as well as an introduction to key tools, processes and institutions, which have become an inseparable part of the CRT mechanism that largely dictate its successful implementation in financial institutions, primarily banks, who want to free your business from risk assets.

#### INSTRUMENTS OF CREDIT RISK TRANSFER

Instruments of credit risk transfer (CTR) provide complete credit market, allowing market participants to separate credit risk than other types of risk. This leads to the creation of markets for credit risk, through which lenders can spill over credit risk (for hedging purposes), and those who are not primary creditors cannot take credit risk (allows access to new categories of risk). In fact, numerous examples of uses that provide CTR instruments in addressing the different dimensions of credit risk can be easily identified. They include the following:

- Separation of the credit risk of financial risk and market risk. [7]
- Isolation of the time dimension of credit risk. [3]

- Division of the class of credit risk, which allows you to match the level of risk and needs.
- Enabling banks to choose whether to retain ownership of the transfer of credit risk, which allows specialization, "decoupling" of disbursed loans of credit risk, mitigation of the regulatory restrictions. [7] [9]

CRT instruments can be used to trade credit risk of specific items of placements (e.g., individual loans to the economy or bonds) or the portfolio of assets (e.g. mortgages or bundles of loans or bonds). One of the important questions is to which extent the instruments should be able to adjust better to a number of other transactions and whether any of the other instruments are good substitutes. The following table presents the classification scheme of some CRT instruments based on their relevant economic characteristics. The table illustrates a number of features of CRT portfolio instruments, including types of investments, which tend to be included in the portfolio of instruments to compete with this particular instrument. It shows, among other things, that credit risk associated with consumer credit, is usually coated over securities-based lending (ABS).

**Table 1** The Portfolio CRT Landscape [8]

Underlying Credit Risk		Typical CRT Mitigate and Comments	Accounting
<b>Consumer Loans</b>	Residential mortgages Credit card receivables Auto loans and leases	<b>ABS:</b> underlying risk tends to be "local". That is, there is not a great deal of cross-border ABS volume. Also assets tend to be more homogeneous than those securitized via CDOs and CLNs	Loan taken off balance sheet
<b>Transferable Debt (Loans and Bonds)</b>	Commercial mortgages Trade receivables Equipment leases		
	Corporate debt Leveraged loans Emerging market de ABSs and CDOs	<b>Outright sale or syndication:</b> cheapest and cleanest) alternative <b>CDO:</b> expensive to set up and maintain	
<b>Transferable and Non-Transferable Debt</b>		<b>CLNs and synthetic CDOs:</b> cheaper than conventional CDOs to maintain. <b>Single-name credit derivatives and guarantees:</b> expensive + counterparty risk exposure <b>Multi-name or basket default swaps:</b> counterparty risk exposure	Loan may have to remain on balance sheet, although the CRT transaction qualifies for hedge treatment

In addition, the ABS generally should not be used for the securitization of corporate debt, high credit and debt in developing countries and cannot be used for stationary instruments. The aim of those who chose to spill over the risk is to remove the risk from the balance sheet. However, artificially modified (use of credit derivatives) is often necessitated by the non-transferability of placements (whether for legal or other reasons). Table 1 shows that when using a synthetic way, without removing from the balance sheet, the transaction may still qualify as hedge accounting treatment. Banks that made spill over risks generally prefer to release the funds and capital through the free sale. [8] In the case of loan corporations and states, in the absence of serious asymmetric information, it can be done purely, without explicit recourse. If such loans are not transferable for one reason or another, one can use the CDS (credit default swap), but this time the loans remain on the balance sheet, assets are not exempt and capital costs are still there.

#### REASONS FOR CREDIT RISK TRANSFER

When the bank transfers the credit risk to another investor, then it bears two major costs: [4]

1. Special risk premium (premium lemon), charged by the investor, because the bank has complete information on credit risk, which is transferred. If, for example, offer for sale a loan at a nominal value, the investor finds that the nominal value and in fact the greatest value that the loan may have, and therefore a smaller amount, regardless of whether or not actually offered a loan has the value of the nominal level. The bank has information about the riskiness of the debtor, which a potential investor does not have, and many experts believe that it is normal that a bank to submit the cost of the additional risk premium. Research has shown that it is quite legitimate for the simple reason that most banks and credit sales of the debtor, the value of capital has experienced a significant decline in that period. As a potential investor is not able to look at the details of business borrowers, whose loan sales, as a bank, as a good means of protection from the risk premium offered mentioned.
2. Moral hazard, resulting in inefficient control of active risk of the debtor by the creditor. Banks have less incentive to control the credit risk of loans they sell, but those that remain. Therefore, the price achieved on sales of loans is less than would be if the bank better control the risks of debtors whose loan sales.

The main benefits of credit risk transfer are diversification and reducing the cost of growing foreign capital for credit granting. According to many experts, credit risk transfer should carry a kind of balance, which would be reflected in the fact that the cost of credit risk transfer cover with smaller capital requirements associated with the level jobs of crediting in the bank. As financial markets are imperfect, transfer of credit risk in the form of CDOs (collateralized debt obligation) may also allow investors specialized investment relatively low risk that the long side, can only be accessed by higher prices. Securities extremely low risk to be very easy to sell and the best example of this are government bonds. Such securities are particularly sought among the investors, who highly rate the liquidity of the issuer. However, it is evident that the market supply of corporate debt instruments highest level (AAA) is rather small, which often imposes premium price, which is associated with liquidity. In addition, highly secure corporate bonds are negatively skewed risk presented.

The probability that such bonds be paid off in full is high, but the value of their equity roughly halved, as a rule. Investors, who have low requirements in terms of liquidity and high requirements for security, will benefit from the availability of senior CDOs, which offer a modest reward patient institutional investors, like pension funds and insurance companies, because of the low level of active risk and low liquidity. Gail stressed the value of standard securities, whose design is understandable, making them less expensive instrument of raising funds. Relative standardization of CDO and CDS (credit default swap) has increased the acceptance of these instruments in the market and contributed to the growth of the CDO and CDS markets. [4]

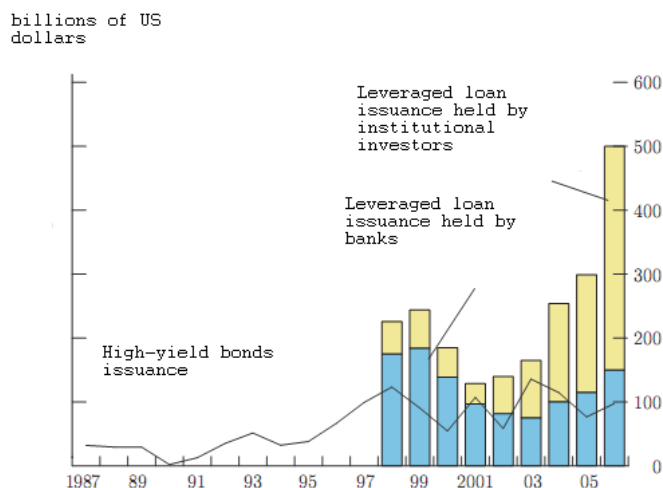
New regulations imposed by the banks obligation of having an adequate amount of capital in accordance with risky assets. Capital alleviates problems related to the bank, and systemic risk, tied to the financial system. In considering the transfer of credit risk in order to free resources that are trapped in the capital, often starts from the premise that the only possible form of transfer of credit risk prompt sale of loans in the secondary market. If the frictional costs of capital rising high enough in relation to the frictional costs of loan sales and credit basis if sufficiently profitable, the bank increases the return on equity, sales of loans for cash (and the release of regulatory capital), which allows an additional equity loan. Unless some loans more expensive to sell than others, banks should not sell the loans in the shortest possible time after their creation, retaining only the capital necessary to cover the loan while they are temporarily in the balance sheet.

#### SELECTION OF CREDIT RISK FOR TRANSFER

Assuming that the credit risk transfer can be achieved only by the prompt sale of loans, we take into account the fact that the cost of credit which we sell, is arranged on all loans that it has loaned. It is logical to assume that the banks will sell only those loans, which would thus provide the greatest benefit, given the reduction in required capital and the net cost of sales. Lemons premium costs and moral hazard, which have previously explained, are usually associated with active risk management. If capital, which was released by selling loans, not dependent on the quality of loans, and then the least-grade loans would be retained. As selected or required level of capital a bank must be sensitive to the riskiness of loans placed, it frees up more capital by selling high-risk than low-risk loans. Depending on circumstances, very often selling riskier loans is preferred. Basel II agreement is being based on respect for these principles. It is evident that high-risk loans are less frequently found in the balance sheets of traditional banks, which can be seen from the following graphics.

The survey questions sale of loans, it was concluded that sold loans have a relatively low cost of monitoring. [2] Thus, for example, sell the loans they had much more restrictive provisions and requirements of the package, but unsold. It was also found that the package of provisions sought more restrictive when the rating agencies disagreed about rating of borrower, which was a signal the existence of information asymmetry. Packages provisions have often been designed to facilitate the sale of credits, starting from the fact that nearly 60% sale of loans obtained in the month of their occurrence. More than half of sold loans were then resold, which is another indication that the basic intention was to create a debt instrument, which would be liquid in the secondary market. Nearly 90% of

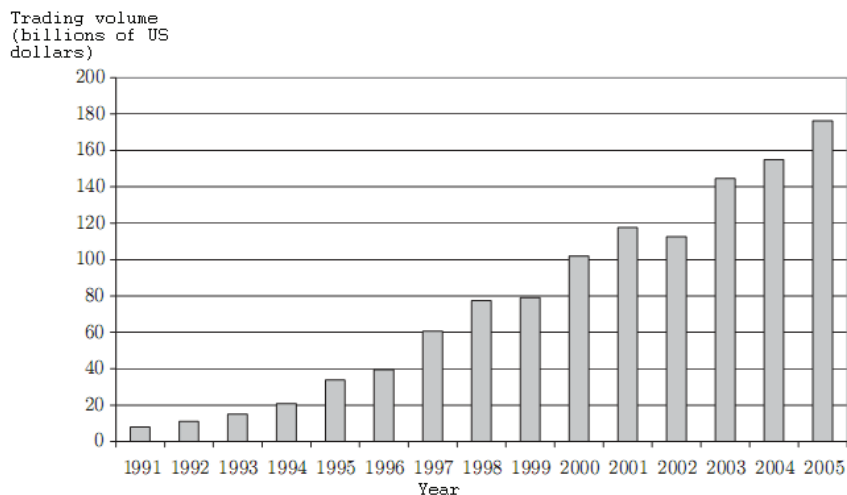
sold loans have credit rating, which is far more than the 40% of unsold credits. Starting from incentive to sell those loans, which link a significant amount of capital, it was observed that, after controlling for other indicators, possession, junk ' 'credit rating is noticeably increasing the likelihood of sales.



**Graph 1** Bank and non-bank investment in leveraged loans

Source: IMF

In this way, banks often sell the loans, which are designed specifically for making profit in mediation, rather than profit from long-term investments, using the more restrictive provisions of packages that can ease the cost of sales. Riskier loans are more likely to be sold, primarily because it relates more banking capital. The following graph on the best way tells us about considerable increase of credit trade on the secondary market.



**Graph 2** Secondary market loan sales [2]

## ROLE OF FINANCIAL INSTITUTIONS IN THE PROCESS OF CRT

Successful transfer of credit risk and creation of quality and sustainable market for such purpose in any case would not have been possible without the strong influence of financial institutions, particularly banks and hedge funds. Currently, all major banks are directly confronted with the risk of another party (counterparty risk), compared to hedge funds, and in addition there is a strong economic dependence on banks in relation to the profitability of hedge industry as a whole. This link in the first place depends on the primary brokerage business, which consists of a package of services that investment banks offer hedge funds. These include financial services, securities lending, trading, services, global security, operational support, consolidated cash management, risk management advice and other services. Current primary advantage of using a broker for a hedge fund is the ability to maintain trade links with multiple brokers while maintaining cash and securities / collateral hedge fund in centralized key accounts in their primary broker.

For investment banks, the yield generated by the primary brokerage for hedge funds is considerable, and are described as follows as of year of 2005: [10]

- Hedge funds have generated a 40% yield of the investment bank to market equity shares, 20% return on trade in securities that carry a fixed income and 80% of trade in the market of problematic debts (debts of companies that are facing bankruptcy);
- Total return of investment banks from doing business with hedge funds is 25 billion dollars, of which 8.8 billion (25%) goes to primary brokerage.

However, to understand the potential risks arising from the relationship between the banking and hedge funds, it is important to recognize that the most important source of income comes from financing activities / lending. As a result, hedge funds with significant short selling (borrowing of securities) and leverage the possibilities of performing the most lucrative form of income for investment banks. It is obvious that banks have an extraordinary incentive for this type of business. For hedge funds, this behaviour is very attractive because it allows you to take advantage of low credit spreads, which exist in this very competitive market.

Of course, hedge fund lending was secured by collateral, or margins, but it only replaces the credit risk market risk, and with it the problem is and what the conditional value of the collateral in poor countries is difficult to assess ex-ante. Systemic implications of what we said could cause concern. In fact, the risk, which in theory is diversified across the capital markets through disintermediation (intermediate transfer of funds from financial institutions (like banks) on the other) may, in fact, be re-concentrate by some hedge funds. [5] Also, while the hedge fund strategies across the sector may look diversified, there is actually a high degree of correlation, since many funds are effectively invested in bets on stable or default premium risk. By the spreading risk of premiums it will force the liquidation of large positions. [10]

Potential systemic risk of credit derivatives is not limited to the relationship bank - a hedge fund, but should be in this course include consideration of the role of insurance and reinsurance companies, as well as sellers of protection, as well as their hedging behaviour, the strategy of liquidity management and more. The greatest risk of liquidity, which stems from the TKR market, is concentrated in large banks. This applies to, on the one hand, their position trading, and, on the other hand, the various activities of hedge funds, on

which they are faced with significant credit or liquidity risk, which refers to keeping the client's collateral, but also because what their income is increasingly dependent on performance and profitability of the hedge fund industry.

#### CONCLUSION

Inadequate control of risk, which was present for decades in the global banking sector, during years, was the main generator of the many crises and instability, which shook both financial and real sector. The creation and implementation of regulatory provisions, as defined in documents known as Basel I and Basel II, have significantly contributed to the transformation of banks, which were bound by numerous rules and regulations, all in order to protect against risks and prevent crises. One of the key provisions of a new regulatory mechanism was to determine the regulatory capital which each bank, depending on the riskiness of its assets, must possess. This provision has stabilized the banking sector, but also led to a reduction in earning power of banks, because a significant amount of funds in the form of regulatory capital has been frozen. Transfer of credit risk is just one way in which banks, in a regular way, want to overcome the limitations that are imposed on them with new regulations. From practice we realized that, due to this process, banks are able to eliminate a part of the credit risk of their assets, the sale of certain loans and other investments in the form of securities. Thanks to the operation, the banks are coming up to two new sources of cash flow: the one that receives the sale of such investments in the form of securities and the one that is released by reducing the amount of regulatory capital, due to the reduced risk assets.

Examining the experience of developed banking and financial markets, it was concluded that the transfer of credit risk is one of the most effective ways to spill over risks to other investors. In recent years this process has been significantly improved, primarily due to the design of numerous, innovative instruments, with which this process is implemented. Among them are very important CDO (Collateralized Debt Obligation), CLN (Credit Linked Notes) and ABS (Asset-Backed Securities). In order for the mechanism of transfer of credit risk to be functional, there must be an adequate market, where these financial instruments would be traded relatively simply, efficiently and inexpensively, and thus provide better protection against risk. Key role in this market is played by the banks themselves, which made emissions of securities through the process of TKR, and hedge funds, which are engaged in trade of these financial instruments.

Certainly, it must be noted that the entire process of transfer of credit risk is very complex and requires the fulfilment of a number of preconditions, for those goals to be achieved. First of all, banks need to be aware of the risk of individual loans, knowing virtually all venture investments, provided that the degree of risk varies among them. Once risk is identified, banks must determine which investments are in the process denied, and which retained. Throughout the paper it was emphasized that banks generally opt for the transfer of riskier investments, since these release a larger amount of capital that would otherwise be trapped in the mandatory capital.

Transfer credit risk, as an effective and modern concept, certainly must be interesting to all banks, regardless of the banking system in which they operate, but on the other hand, it must be recognized that banks are in a relatively small number of countries capa-



ble of this way of protecting against risk, because of their own limitations that are due to the lack of appropriate market, which is a key prerequisite for the successful application of these concepts.

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## TRANSFER KREDITNOG RIZIKA KAO MEHANIZAM ZAŠTITE OD RIZIKA

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*Povećanje nestabilnosti u poslovanju na finansijskom tržištu, pre svega u sektoru bankarstva, dovelo je do toga da su regulacione vlasti odlučile da donesu set novih pravila, kako bi se poslovanje u finansijskom sektoru stabilizovalo, a sve češće krize sprečile. Jedno od ključnih pravila, koja su bankama nametnuta, je raspolaganje obaveznim kapitalom, koji ima zaštitnu ulogu, u smislu odbrane finansijske pozicije banke u slučaju kriznih situacija. Taj iznos obaveznog kapitala direktno je povezan sa rizičnošću plasmana, pre svega kredita, banke, čime su se banke podsticale na sigurnija ulaganja. Međutim, obavezni kapital je smanjio mogućnosti plasmana banaka i tako značajno uticao na njihovu profitabilnost. S obzirom na to da nisu mogle da prenebregnu nametnuta pravila, banke su izlaz iz ove situacije pronašle u novom mehanizmu poslovanja, tzv. transferu kreditnog rizika. One su odlučile da pojedine kredite, pre svega one rizične, koji vezuju značajan iznos obaveznog kapitala, pa samim tim smanjuju investicioni potencijal banke, sekjuritizuju, tj. pretvore u hartije od vrednosti, a potom plasiraju na tržište. Upravo suština ovog rada je upoznavanje sa samim procesom transfera kreditnog rizika, njegovim instrumentima, razlozima za njegovo sprovođenje, kao i o finansijskim intitucijama, koje u ovom procesu učestvuju.*

*Ključne reči: transfer kreditnog rizika, sekjuritizacija, banke, hedž fondovi, instrumenti transfera kreditnog rizika.*