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CORRELATION BETWEEN THE USE OF DERIVATIVES PRODUCTS AND THE IMPLEMENTATION OF MONETARY POLICY

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1. Central bank and monetary policy

The rapid transformation of the economic environment and financial system produces the growth of the competition and the improvement of the banking products and services offered to the clients. The fight for the most representative market quotation becomes more and more visible if we take into consideration the growth of profitability, fact which determines the banks to assume important risks.

The banking activity involves risks, which may appear in the entire banking system, or in all the other banking systems, in the case of international banks. The banks aim at achieving new goals, which often are diverging, in the sense that they use specific instruments for increasing the market quotation as well as for obtaining the necessary funds to begin some speculative transactions.

The changes of the macroeconomic environment, dominated by the growth of volatility, internationalization, and liberalization of the financial markets, has brought (meant) for the banking system the development of the contagiousness effect, exactly like the effects of the financial crises from the 90's, which spread from Thailand to the rest of Asia, Eastern Europe and South America, and then, involved the entire banking system. These events have determined the control authorities to confer an increased attention to financial risks, and implicitly to administer the system risk.

All the banks (branches, international banks), adapted their activity depending on the globalization effect, the intensification of the competition, the liberalization of the financial markets and on the appearance of financial innovations.

The traditional banking practice, based on deposits and loans represents just a small part of the banking activity; the new market trends and the diversity of the banking offers have a great influence on the risk management, avoiding this way the possible problems. Thus, it can be said that the analysis of the financial indicators is no longer sufficient to present the real market situation, from the point of view of a bank risk profile.

This relatively new concept in the specialized literature and also in the banking practice (activity) – risk analysis- implies a permanent analytic revision of the banking activity, ensuring the idea of stability and confidence in the financial system. This approach implies the development of the instruments of the traditional banking analysis, real starting points for the anticipation of risks and the execution of simulations; their transformation offers in time a dynamic situation of the bank's performances. On the other hand the financial indicators (the structure of the balance sheet, profitability, market risk and loan risk, liquidity, currency positions), are under the bank's control; each bank has the obligation to calculate, monitor and report their degree of development. The risk analysis is also influenced by other agents, such as: the quality of the

management and its style, its consistency, the effectiveness of banking policies and procedures, the effectiveness and the exhaustiveness of the risk monitoring, the opportunity and the precision of the management information systems.

Not too long ago the Management of banking risks was developing only the part of Management of loan risk, according to the idea that it is hard to remove or avoid a risk, if the risk hasn't been identified. The past years have shown that banking risks represent a huge and a continuously moving field, and a contemporary approach would imply taking into consideration all the categories of risks. Management of banking risks usually involves the management of each banking risk and a general risk profile of the bank.

The purpose of risk management consists in diminishing the risk, and thus the increase of the bank value would be possible. Some economists consider that the banking risk management is a part of the financial management, together with the financial planning, the bookkeeping systems, internal controls and treasury.

An adequate risk management must insure the bank the capacity to identify, monitor and quantify the risk profile, in order to avoid any such risks[1]. You can find these elements in any category of risk, but when it comes to global thinking everything changes.

The success of risk management depends also on the bank's ability to anticipate the potential losses, the policy of stocks, the transfer of the losses, as well as their degree of integration in the bank's management global system.

The control institutions have an independent evaluation of the management risks. Each bank must have an efficient system which quantifies, supervises and controls the most important risks in a bank. Although, all the banking systems have at least one regulation and control authority, the structure and the implementation of the responsibilities are different. The control authority is interested in the way a bank identifies, measures, administers and controls the risk (in the agreed limits). The Basel Committee, responsible for the banking control, has identified a series of conditions and then established the standards for an efficient control; these conditions are stipulated in Basel II Agreement.

Practice has demonstrated that sometimes the two roles of the monetary authority are similar; the first one- to control the banking system in order to reduce the global risk, and the second one-to put into practice the monetary policy. Surveillance and control of the banking system are the result of putting into practice the monetary policy. It's important for us to know to what extent the monetary policy influences the health of the banking system.

The fulfillment of the monetary policy's purpose has effects on the banking systems, because the techniques of transmission could be seen as agents which influence the competition between the banks.

The monetary policy influences the banking system through the mechanism of interest rate; the interest rate has a direct impact on liabilities and assets. The rate of interest influences a lot the banking profitability, through variations of the interest rate and through quantitative changes of the deposits and credits offered by the bank. If we take into consideration the direct correlation between the level of deposits and loans and the change of the interest rate, we can say that the development of the economy and the business climate depend on the change of interest rate[2]. The effects of the interest rate influence not only the credit cost but also the cash-flows of the creditors and debtors from the financial system, inducing the

[1] Marin Oprițescu - Banking management risks and performances, Universitaria Publishing House, Craiova, 2006

[2] http://stock.about.com – Interest Rates and Stock Prices

progress and the decisions regarding the economy and the investments.

The access to different forms of financial resources makes the difference between the participants in the economic act. If the big companies have diversified access to cheap capital because of the number of existing markets, the small companies, who don't have a trustful source of information, have one option - banking lending. This way, the monetary policy has a stronger influence over small economic agents, who depend a lot on the bank loans, than the corporations, which can easily find financial resources. Because of the development of the financial market and because of the consolidation of the capital market, the role of the traditional bank loan decreased in favor of open-market operations.

The transmission channel of the monetary policy through interest rate (similar to the countries from the Euro area), is very powerful, while the transmission channel of the traditional loan (from the developing countries) is very poor, because of the development of the banking systems. If we make a correlation between the development stage of the banking system and the instruments of monetary policy, promoted by the same system, we discover that the countries with a strong banking system prefer the interest rate, as an instrument of the monetary policy, while the monetary authorities from countries where the system is poor, choose the option of minimum financial resources.

All in all, the materialization of monetary policy is based on the idea that the needs of the real economy are expressed through the banking system, and the changes of the monetary policy influence the evolution of the economy. In this way, the monetary authority has to promote a proper policy, which can lead to the achievement of its main objective – price stability.

2. Derivatives from hedging to speculation

The derivatives allow the investors to transfer or to assume the risks, attached to an active support. At the beginning, these products were used to cover the market risk, produced by the assets' price changes. Nowadays the derivatives are used to transfer the risks, according to the changes of interest rate and exchange rate[3].

In economic terms, the derivatives contribute to the foundation of financial systems. The risky characteristics of credits and financial assets can be composed and decomposed in new synthetic assets. This rearrangement of the risk qualities offers a new way to correlate the investors' appetite for risk with the real risks from their portfolios or with the cash-flow profiles. The derivates allow the risk to be perceived individually and performed as such. This is the reason why such an efficient system of price assets valuation has been created, because these prices can record changes of the support assets, according to the variables taken into consideration.

The derivatives provide cheap and efficient opportunities of hedging and diversifying the portfolios. The investors, as well as the individuals and the financial institutions can use the derivatives in order to make become stable in time the payments and the interests, and to reduce the exposure to interest rate fluctuations and exchange rate.

The investors may wish to clear away the risks from their business through risk transfer, from one participant to another, according to their dislike for risks. It's a very important aspect, because this is the cause of the general low exposure of the participants. In case the risk is wanted, the speculators will obtain and process the relevant data of the transaction in order to obtain at the end an income. As a result of the two operations, of diminishing and redistribution of risks, positive economic effects may appear.

[3] Stancu Ion, Finance, Economical Publishing House, Bucharest, 2002

If the contracting parties are represented by speculators, only the ones who own a competitive system of information can register profit. In the end, the efficient use of information can increase the profit.

The trade of the derivatives contributes to the growth of liquidity of the assets' market. This growth together with reduction of communication costs, lead to some risky investments performed by the banks. This doesn't necessarily implies the growth of the banks' risk degree, because the banks usually pass from big exposures to external shocks.

The situations on the derivatives market in which the participants are unable to pay, don't seem to be correlated. There are reasons to estimate that the inabilities to pay are relatively independent in time and between the dealers.

In this case, there is no way that the contract participants might have losses in the same time. If one of the parties registers profit, the other one will register a loss. The same aspect is confirmed by the equality between profits and losses in a contract. On the market the open positions must be zero.

This is the reason why the probability of contagiousness, resulted from the use of the derivatives is overestimated. From a different perspective the analysis of the financial derivatives represents the source of significant risks. We mustn't forget that for the derivatives' trade you have to pay only a part of the amount stipulated in the contract. If the investor's position depreciates, he must pay (supplement) the initial amount of money, otherwise the already purchased contracts will be sold. These two aspects create a high level of obligation on the market of derivatives and a certain aleatory character, when it comes to possible payments.

3. Consequences of derivatives use on monetary policy

The correlation between financial derivatives and monetary policy must be seen under the derivatives' influences on the market. Theoretically speaking, there are supporters of the derivatives' role in economy, as well as persons interested in different distortions created by the speculations related to these products. If we analyze the situation from the point of view of the market stabilization or destabilization effects, we have to mention some aspects.

One of them is represented by the unexpected variations of the price. This is the reason why the stock exchanges have created a stopping system for this kind of transactions.

Another aspect deals with the liquidities and with the degree of substitution between assets, which determines firm relations between the markets.

Those two aspects determined a growth of the shock absorption capacity. Through the apparition of the derivatives, the arbitration operations between the spot markets and the forward markets efficiently include information in the price structure of the basement asset

The efficiency in the use of the information, related with the interdependence of the markets determines price sensibility on the derivatives market. The derivatives market has a characteristic which allows the participants to trade the risks associated with certain assets, but without the existence of some real sell-buy operations for the assets, a high appetite for risk and speculation appears.

Because this is an extremely liquid market, characterized by a a high level of obligation, the participants can rapidly react to any kind of modification regarding the basement asset. Thus, insignificant shocks on the market can produce major changes to the asset holders.

Taking into consideration all these aspects, it's obvious that the financial derivatives influence the financial system and the economic environment in general. In consequence, the use of the derivatives has a big influence on the monetary policy and its

implementation. In this study I will analyze the influence of the monetary aggregate on the interest rate and rate exchange.

In the case of the interest rate, the financial derivatives are a good cover against the fluctuations which may appear. Thus, the Central Bank's capacity of influencing the level of the interest rate may interfere with the participants' actions, who try to have a fixed interest, through hedging operations. Also, if a participant cannot access a certain interest rate level or if he wishes to pass from a fluctuating rate asset to a fixed one, he can use an interest rate swap. In this case, the central banks' policy – the use of the interest rate in order to introduce the monetary policy, can become very difficult, because of the agents' possibilities to trade.

The economic operations can stabilize certain variables in the economic circulation, through the reduction of exposure to the interest rate risk.

From the point of view of the rate exchange, the derivatives have strongly developed once the Bretton Woods Agreement ceased. The participants in International Transactions felt the effects of the fluctuations and the rate exchange incertitude. Because of these aspects the rate exchange level acquired new symbols, resulted from different banks' interests or from the interests of the economic operators. Many central banks have chosen as inflation targeting methodology targeting rate exchange. The sterilization methods made by the central banks on the exchange market are immediately counterbalanced with operations on the monetary markets.

The development of the stock exchange, made the sterilization operations (performed by the central banks) to be not so efficient as before. Even the central banks have begun to use the derivatives on currency exchange. These situations have generated some powerful contradictions. In this way, if during the transactions the central bank registers a loss then we could say that the bank makes speculations with the state's money and at the same time, the bank wants to decide the tendencies of the market. If a central bank registers income from such operations, it can be accused of using confidential information regarding the rate exchange. In my opinion a central bank must use the derivatives with precaution, or it must not use the derivatives on the currency exchange, especially because of the possible accusation of conflict of interests.

The development of the derivatives markets and the incredible mobility of the capital flux allowed the speculators to exploit the unsupported rate exchange. In the existing economic context, the vulnerability of the fixed rate exchanges has increased.

According to the International Regulations Reports, the development of the derivatives market affects the way in which the monetary policy is implemented[4]. A great impact was felt on the monetary aggregate. First of all, the derivates can change the demand's offer. Using an efficient risk management and finding new possibilities of investments, the derivatives instruments reduce the money offer in order to perform financial transactions. This way, the economic agents can trade, without using too many resources.

All the traders who perform transactions with derivatives must be well informed, and they have to use the information efficiently. This means that one of the major costs on the financial markets – bid-ask spread is decreasing. The level of this spread is determined by the non-use of the information and by the volume of the transactions. We can say that the proper use of information on the derivatives market decreases the level of the spread for the basement asset, and as a consequence the trade prices are reduced. A reduction of the costs means a diminution of the money offer.

[4] www.bis.org

As a consequence of these structural changes (which may appear at the money offer level), the degree of incertitude goes up for the demand function. This is why the implementation of the traditional monetary policy has become more complicated. The reduced interest rate risk for the governmental debt obligations has determined the risk reduction, transforming them in competitors for the traditional deposits investments; these deposits are a part of the monetary aggregate.

Dealing derivatives neither alter the monopolistic position of the central bank in its final position as creditor, nor its resources. Influencing financial transactions, the derivatives modify the demand for central bank resources. As I have already showed, the use of derivatives made more complex the implementation of the monetary policy, by reducing the effects for some of the already mentioned measures. For example, trading derivatives on foreign currencies reduce central bank capacity to influence the rate of exchange or to induce certain effects in international commercial exchanges. Another possible effect is related to the rise of the interest rate, which can influence the derivatives' traders and induce them not to follow the bank's tendency. On the other hand, using the derivatives helps to spread quickly the monetary policy measures in the whole financial system. The relatively reduced costs for trading derivatives made possible for new information to be included into the derivatives price structure. Due to liquidity, flexibility and efficiency of the derivatives market, the trade mechanism has a high efficiency without taking into consideration information asymmetry. Derivatives could act as transmission channels for shocks at the level of the entire society. The lever effect which appears when derivatives are used can be a major factor for sending shocks to the market of the based asset.

Derivative products are financial instruments with a clear temporal end. This aspect, which is called maturity, cannot fulfill a permanent risk protection. Sooner or later the monetary policy will affect the market. The creation of derivatives generates a more efficient market, which doesn't allow the influence of the market imperfections over the transmission channels. Dealing derivatives reduce the effect of changing the interest rate by the central bank with results on reducing the elasticity of demand for investments, related with interest rate.

On a mature, liquid and efficient financial market, the central bank could hardly predict the effect of a certain monetary policy impulse sent to the real economy. As an effect of the derivatives' trade development, the monetary policy became a weaker instrument for the implementation of an anticycling and stable policy. The specialized literature considers that the advantages of the derivatives, such as efficiency, self adjustments, and shock resistance should balance a less effective anticycling monetary policy. I consider that trading derivatives are like a double-edged knife. On one hand, it may reduce the risk associated with certain operations and on the other hand, derivatives could induce powerful economic shocks, canceling the central bank's possibility to react.

4. Derivatives products risks

The use of derivatives facilitates the possibility of avoiding some entering hedge on the market and also the competition limits. The classical surveillance and control systems have reduced the management constraint efficiency and became inefficient; the same financial activities entered under different authorities' jurisdiction. Central banks' reactions to these challenges determined an orientation towards more flexible regulations, in order to consolidate them for better international cooperation.

From the classical point of view, regulations assure solvability for financial institutions through an adequate capital.

This capital adequacy management was considered to be a guaranty for creditors, in case some unforecast situation affects the asset portfolio of the financial institution. All the costs related to capital adequacy; act as a limit for risk appetite. This way, the surveillance authorities would like to modify banks' options regarding the assets. This restriction didn't always have the expected effect, because focusing on specific financial indicators could distract attention from company's management and even worse, from internal risk control.

For example, a similar situation appeared recently at Societe Generale, which reported a huge loss; the problem was not the result of the poor indicators. The loss and the risks which affected the French bank turned to be a management error of the managers and a slow internal risk management. The accomplishment of some mathematical figures doesn't protect the financial system from possible management errors and even worse, in case the managers want to fraud the stockholders, the depositors, the authorities, and the mathematical indicators, they create a false feeling of security until the moment the crisis emerges.

Regarding capital adequacy we should take into consideration the fact that the right figures for a certain financial institution could be different on the market, related to legal regulations. The capital adequacy rate turns out a useful surveillance instrument if it is used with other flexible risk analysis methods.

Taking into consideration these details, banking regulations should focus more on risk management and internal risk management. An important role of this way of regulation is promoted by Basel Acoord II. Following this important regulation, the banks should create departments of measuring internal risks and should also adopt a risk model. Using such a model, based on historical data or simulated information, the risk portfolio could be valuated, and the bank could determine the necessary capital in order to assure a sufficient level of credibility, and to maximize the profit in a given period of time. This kind of approach needs a specialized expertise made by the authorities.

The derivatives market extension offers a better capacity to regenerate and to recover the financial field, an improved approach towards the risks and financial market and also a domestic and international variety between the markets.

The question is what happens with the disturbances from other sectors?

Could derivatives act properly? Could derivatives protect the investors, or in the end the powerful lever effect will generate a bigger crisis and will spread these problems to other sectors, too?

The American economic growth[5] registered between 2004- 2006 has determined the financial institutions to adopt optimist business plans regarding the development of the financial banking system. The Americans didn't take into consideration the possible market shocks or liquidity crisis. Almost all the banks and big companies relied on the growth of profit, taking into consideration a low inflation and the existence of some liquid markets[6]. When the mortgage crisis began in USA, the derivates market manifested concern, fact which produced quotation shocks as well as market liquidity changes.

The powerful variations of the derivates market draw the attention upon the speculators, fact which determined the investors' incertitude. The derivates market overtook by far the support active market, and according to the already announced numbers, an important market change might bring major diminutions in the traditional capital markets. Relying only on economic growth, would be an attitude deprived of judgment, because the market tendency is to alternate the economic cycles. Without a proper anticipation on short

[5] www.zf.ro – The american economy, from September 11 to subprime crisis

[6] www.zf.ro – Complex financial instruments, the source of welth and fall for Wall Street banks

and long term, it might appear a crisis or even an important recess. Federal Reserve is guilty for this lack of vision and pro-cyclic policy.

The interdependence between the support actives and financial derivates in the actual macroeconomic financial context is a delicate matter, because the crisis which already began tends to spread and cover all the financial markets. This is why I think that a market auto regulator system is unlikely to function, because the existing concern and the lack of liquidity amplify the shocks and the crisis of the American economy.

As I already mentioned, the authorities search for new possibilities to operate on the financial markets, because the central bank can no longer implement through classical instruments the monetary policy. The regulation necessity is raised for discussion, but the actual tendency is in the rules' favor, not in the automatisms of the market instruments. We mustn't forget that radical measures can be as dangerous as the lack of market regulations. For a long time the rating agencies have been tolerant to the qualificatives, but now they adopt a strict policy. This rating change strengthens investors' incertitude and developed their dislike for risks.

Five years ago the FED Ex-Governor Alan Greenspan declared that the rating agencies are responsible for the credit crisis, because of the estimating risk errors for the credit applicants. I consider it malicious information, because the FED policy has encouraged the development of subprime credits and the derivates financial innovation. It is a huge mistake to blame only one institution for such big crises. The derivates teach us that flexibility is the information key in this world and there is no other unique cause of establishing a lasting market trend. If one of the economic variables becomes unstable, the market regulations mechanisms or the central bank's interferences, can easily re-establish the equilibrium.

In a dynamic environment the equilibrium is not permanent; this is the reason why the central bank and the financial markets participants must prevent first, and avoid the possible repairs.

In my opinion the use of derivates could be compared with walking on thin ice; it's vital to maintain the equilibrium, because your fall may be fatal.

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