

## **Mr. Erçel discusses financial risk and its management**

Address by the Governor of the Central Bank of the Republic of Turkey, Mr. Gazi Erçel, at the Sixth Annual Global Finance Conference, Bilgi University, Istanbul, on 8 April, 1999

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I am pleased to be here today for a kind invitation of Global Finance Association and İstanbul Bilgi University. Today I like to discuss financial risk and its management which are one of the hot topics in the international financial circles.

The 1980s and 1990s witnessed a major transformation in the international financial markets. The advent of more complex and dynamic transactions have substantially increased uncertainties in the marketplace, and, in today's environment, dominated by a dynamic, aggressive financial service industry, market participants are exposed to greater financial risks than before. Of course, there are several reasons for these changes.

The first reason is the globalization of the international markets. Markets all over the world are becoming consolidated into a vast world market as obstacles to the free movement of capital are gradually being removed. This can be seen in the present global crisis, which arose because problems occurring in one region of the world promptly made themselves felt by markets and investors in other regions.

Another reason is that the international markets have become much more volatile. Volatility, which means the fluctuation of market prices and ratios, is one of the principal sources of financial risk. When market volatility increases, market participants are exposed to greater uncertainty--and greater risk.

Still another change of conditions in the international markets is the appearance of new forms of investment with very complex structures. The great variety of these investment tools has led to the development of still others, like *derivative instruments*, aimed at reducing the degree of risk associated with several financial transactions. Derivative instruments are being more and more widely used in the hope of reducing risk in the financial markets, but the losses coming from derivative operations have also begun to increase.

The worldwide increase in the supply of loanable funds has also played an important part in the upsurge of financial risks. This surge, in combination with greater uncertainties, has caused much greater losses due to the materialization of financial risks. In the 1990s especially, such losses have frequently resulted

from financial scandals. The recent collapse of "Long-Term Capital Management" has clearly shown that not even having Nobel-prize winning managers can always reduce the risk.

Finally, one of the principal reasons for the increase in financial risks is to be found in the greater intensity of international competitiveness. Credit risk in particular has become more complicated since the banking sectors of developed and emerging market countries began to compete in the same arena, and since the larger banks began to compete intensively against non-bank financial institutions.

Every one of these developments has fundamentally affected national and international banking systems. More effective risk management by banks and other financial institutions has become vital for preserving the financial stability of both domestic and international markets. The changes I have just described show that market participants and departments responsible for financial control, and also portfolio and other managers, are often unaware of some of the risks to which their institutions are exposed.

For all these reasons, the sound measurement of financial risks and methods for their effective management have become an absolute necessity. It is also important to make regular announcement of information on which market participants can base sound decisions about a bank's financial standing and risk structure. It is well known that markets have a natural disciplinary mechanism which rewards banks that manage their risks effectively and penalize banks that show themselves to be risky. Everybody knows that the successful operation of this mechanism depends on the regular dissemination of information making banks and the banking system transparent and allows market participants to arrive at sound decisions.

In an environment that is home to all these kinds of activity, the task of maintaining the stability of national and international banking systems has come to require new arrangements and dispositions in the banking sector. To lead the way for progress in this area, a committee was established, led by the Bank for International Settlement (BIS) and made up of central banks and banking supervisors from several countries. Almost all of the proposals that ultimately originated in the work of this "Basle Committee" have been adopted for the banking systems of many countries, even though the Committee has no power to apply sanctions.

One of the first accomplishments of the Basle Committee was a study of banks' capital adequacy. Issued in 1988, under the title "International Convergence of Capital Measurement and Capital Standards," this report was soon endorsed by many countries. Also known as the "Basle Capital Accord," the study took

account of credit risk. Although the variety of risks in the international markets is increasing, credit risk is still the most significant risk category for banks.

*Credit risk* means the probability of defaulting on one's obligation to the other party in any transaction. As I already mentioned, the growth of competitiveness in the international credit markets in recent years, the active participation of non-bank financial institutions in these markets, and borrowers' resort to the capital markets for loans at lower cost, have all brought about a considerable narrowing of profit margins in credit transactions. This has forced the banks to make more loans in order to have a competitive edge. But they have encountered credit problems due to adverse developments in the economic and financial conditions. All these developments have resulted in the design of new methods for more effectively evaluating the risks and yields of credit transactions. Besides creating credit rating models for use within banks, these efforts have produced analytical methods calling for intensive data analysis such as retrospective analysis of credit losses, models of bankruptcy probabilities, and stress tests.

Effective management of the credit risks of banks and determining how much capital must be held against contingencies that could arise from such risks are very important for the soundness and stability of the banking sector. The 1988 Basle Capital Accord that I mentioned earlier was the fruit of the work directed to this aim. The Accord targets a bank's capital holdings as a proportion of the credit risk of their on-balance-sheet and off-balance-sheet business. For this purpose, investment instruments were classified into five main categories according to their risk, and a risk coefficient assigned to each group. The weighting formula for asset risk was intended to determine the capital coverage needed for a bank's exposure to credit risk.

But this arrangement dating from 1988 proved ineffective against newer developments emerging during the last decade, and work continues particularly at the BIS on how to reduce credit risk.

Besides credit risk, the main risk categories that have been identified in transactions and markets: such as Market risk, Exchange rate risk, Interest rate risk, Liquidity risk, Operational risk, Country risk, Legal risk, Hedging risk, Systemic risk.

I do not intend to go into the details of all these categories of risk. Of special interest, however, is the improvement of systems and techniques that aim; to reduce these risks by means of information technology. Once the risk is identified, measuring it accurately is generally accepted as the next step in

preventing it from happening. The rapid progress of information technology in recent years has brought new risk measurement models to aid in the measurement of market risk.

The most widely accepted of these is the "Value-at-Risk" model, called "VaR" for short. VaR is the maximum loss that can occur in the value of a portfolio having a certain investment horizon under a certain probability. Since it is a simple and clear-cut concept, the VaR model is widely used for measuring market risk. It permits comparison of the market risk of different investment instruments, so that portfolio performance can be evaluated in terms of the risk undertaken. Especially for measuring market risk to determine capital adequacy, this model has become a necessity in many countries and financial institutions.

Another method widely used for measuring market risk is "Scenario Analysis". Scenario Analysis is a technique used to see how the value of a portfolio would be affected by various probable changes in market conditions.

A last widely used method for measuring risk is the "Stress Test" method. The Stress Test is used to estimate how the value of a portfolio would be affected by large, unexpected fluctuations in the markets, such as have been observed during the global crisis which is still with us. Though similar to Scenario Analysis, the Stress Test mainly aims to predict the maximum value that would be lost by a portfolio under certain extraordinary market conditions. The success of this method depends on successfully predicting market conditions.

Now let me touch briefly on risk management in Turkey's banking sector. From the risk management standpoint, we are well supplied with well-developed methods for managing risk and supervising the risks that we do accept.

As to the financial standing of Turkey's banking sector, Turkish banks have achieved a level of financial and institutional development not to be underestimated. But besides these strengths, there are various threats to the well-being of the Turkish banking sector which should be mentioned. Turkish banks, are mostly exposed to credit risk, liquidity risk, interest rate risk, and foreign exchange risk. This is true even when there is no global crisis or macroeconomic risks stemming from political uncertainty. I should mention that all these different kinds of risk have been thoroughly monitored by the supervisory authorities, who put preventive measures in place before the effects of any problems that were found could threaten financial stability. Under this regulatory system, the banks must submit annual, quarterly,

and even daily financial data to the Central Bank and the Treasury. And besides frequent financial evaluations of banks by off-site examiners, on-site examinations are conducted to verify the accuracy and reliability of the data reported and clarify any special issues found during off-site examinations.

Let me conclude my remarks by underlining once again how important it is to assess, manage, and reduce financial risks to ensure a sound financial system. A sound economy must be based on well-functioning real and financial sectors, and there can be no doubt that, in times to come, we will have to give still more thought to reducing financial risks and keeping them from interfering with the proper functioning of the system. If competition, volatility, globalization, and stresses threaten to pressure the banking industry into resorting to bad risk-taking practices, the responsible authorities and supervisors must take whatever steps are necessary to restore financial stability.