

## Krzysztof Rybiński: Innovations in the financial markets – globalization of the infrastructure

Panel presentation by Mr Krzysztof Rybiński, Deputy President of the National Bank of Poland, at the conference “Innovations in the financial markets 2007”, Warsaw, 16 October 2007.

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Ladies and Gentlemen,

Since I have little time to deliver this presentation, I will skip the introduction and the anecdote and get straight to the point. The global financial markets have recently reported episodes of strong volatility; liquidity was suddenly lost, some markets failed to perform their functions in an adequate manner, others ceased to operate altogether. The liquidity and solvency of some financial institutions were put at risk, whereas some investors suffered loss. Disturbances originated from underestimation of risk by a number of agents on financial markets, ranging from subprime lenders to institutions which purchased structured credit facilities offered by banks and their vehicles. A thorough review must be performed with a view to examining the role of rating agencies and supervisory authorities, which appear to have underestimated the risk generated by the rapidly expanding market of asset-backed instruments and the market of credit derivatives. It is not yet certain whether the worst stage of disruptions is over. In the light of the above, strong asset appreciation, especially visible on the emerging markets, should be assessed with caution.

Thanks to the low exposure of Polish financial institutions to the main infected markets and good economic conditions in Poland, the Polish financial system remained practically unaffected by the turbulences which unwound on the global financial markets. Nevertheless, some negative effects of those turbulences may yet materialize. In addition, two areas in Poland require a special watch of supervisory institutions: the property market and the equity market in view of the risk of an asset bubble developing on those markets.

The development of asset bubbles on asset markets constitutes a potentially very dangerous phenomenon. As shown by experience of many countries, shrinking credit supply (credit crunch) materialized at commercial banks in the wake of a bubble burst was a strong shock for the whole economy.<sup>1</sup> In some cases it may lead to a long-term economic recession, like the one which Japan experienced in the 90s. Bearing in mind the severe macro- and micro-economic consequences of bubble burst, we should determine the appropriate reaction of public authorities, including the institutions responsible for the economic policies of a country and the supervisory authorities. However, the key questions are whether there should be a reaction, who should react and when.

A number of arguments may be quoted for and against undertaking action by central banks during a boom phase of a bubble<sup>2</sup>. I enumerated them in my book on globalization<sup>3</sup>. On this opportunity, I wish to quote the three premises which, according to Donald Kohn<sup>4</sup>, the Federal Reserve Vice Chairman, are necessary to justify the activities undertaken by central banks to pursue this aim:

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<sup>1</sup> Borio C., Lowe P. *Asset Prices, Financial and Monetary Stability: Exploring the Nexus*, BIS Working Paper, No. 114, July 2002.

<sup>2</sup> See references at the end of the speech.

<sup>3</sup> Rybiński K., *Globalizacja w trzech odstępach*, Difin, Warszawa 2007.

<sup>4</sup> Kohn D., *Remarks by Donald Kohn at Monetary Policy: A Journey from Theory to Practice*, An ECB Colloquium held in honor of Ottmar Issing, 16 March 2005.

- a central bank must be able to identify bubbles on an asset market in a timely fashion with reasonable confidence as to the adequacy of the findings of its analysis,
- there must be a fairly high probability that a modestly tighter policy will help to check a further expansion of speculative activity on a given asset market,
- the expected improvement in future economic performance must be sizeable and bigger than expenses disbursed by the economy as a result of conducting those activities.

The last condition points to the restricted use of interest rates for the purpose of bursting a bubble, since the level of interest rates has a bearing not only on decisions taken by entities directly engaged in the process of forming a bubble but in fact on all the entities operating in the economy. To evoke a vivid picture, the use of interest rates to this end may be compared to the use of an atomic weapon in the battlefield – for an atomic bomb makes no distinction between friend and foe.

Donald Kohn's conditions are not easy to meet. Therefore, the opinion now prevails that supervisory authorities must enhance their macroprudential activities<sup>5</sup>. Consequently, one of the conclusions is to take recourse to supervisory instruments with a view to bearing on decisions of those market participants which are primarily responsible for bubble formation and report to supervisory authorities. By way of illustration, although the supervisory authorities do not interact with financial institutions which extended a large part of subprime loans or with arbitrage funds which purchased instruments backed on those loans, they continue to oversee the process of credit risk management and liquidity at banks. Banks played an important role in the process of spreading the crisis. as investors and providers of liquidity to companies – intermediaries in the sale of assets and companies investing in those assets, as well as by organizing the securitization of those assets.

The role of good supervisory policies cannot be underestimated<sup>6</sup>. First, the negative impact of a bubble burst will be less severe both for the economy as well as for financial institutions as such, provided that a banking system is well supervised, the level of exposure on this market is low, the system has quality assets and the capital stock is adequate to absorb the effects of the shock. Second, if the bubble expansion reflects the expectations of extraordinary gains, the supervisory policy may substantially diminish the economic benefits from and the scale of speculation, e.g. by way of reducing the LTV ratio, restricting the loan term or introducing the requirement to provide own contribution for housing loans. Third, the supervisory activities – as an instrument preventing asset bubble formation – have the advantage of affecting directly one selected group of entities which may play an important role in bubble formation. Compared to interest rates, those measures have an effect of a conventional intelligent bomb, which is both selective and precise.

Supervisory activities pursued in order to prevent the creation of an asset bubble may be especially effective if bubbles occur, among others, as a result of the legislation the sector is regulated by. In Poland, this principle is illustrated by regulations which restrict the investment policy of open pension funds and the impact of those regulations on the stock

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<sup>5</sup> Crockett A., *Marrying the micro- and macro-prudential dimensions of financial stability*, BIS speeches, September 2000.

Borio C., *Towards a macro-prudential framework for financial supervision and regulation?*, CESifo Economic Studies, Vol. 49, No. 2/2003, Summer 2003.

Tsatsaronis K., *Systemic financial risk and macroprudential supervision*, article presented at Bocconi University Centennial Conference on risk and stability of financial system: what roles for regulators, management and market discipline, 2003.

<sup>6</sup> Rybiński K., *Globalizacja w trzech odstępach*, Difin, Warszawa 2007.

market. The currently effective legislation may contribute both to aggravating the supply-demand imbalance which supports the divergence of stock prices from the fundamentally reasonable levels and also towards the growth in the scale and impetus of price adjustments, should a bubble burst.

Open pension funds are one of the main sources of demand on the stock market. From their very beginning, they have recorded average monthly inflows of PLN 870 million, the value of equities in their portfolio have exceeded PLN 51.5 billion, whereas their share in free float has amounted to ca. 22%. The assets held by open pension funds are likely to continue their rising path. As estimated, their credit debit balance will stabilize to report a balanced position only in 2031<sup>7</sup>. In addition, the past quarters saw high demand of investment funds for equities.

Meanwhile, despite a large number of debuts, the value of equities introduced to the Warsaw Stock Exchange is relatively low. By way of illustration, in 2004, the value of public offers amounted to PLN 13.2 billion (including PLN 7.9 billion of PKO BP's issue); in 2006 it was PLN 4.2 billion, whereas in the first nine months of 2007 it was PLN 6.4 billion. The prevalence of SME sector in the structure of WSE debuts is the factor behind these statistics. Consequently, the supply-demand imbalance on the stock market was one of the reasons for the strong price rise, which may not always be explained by fundamental factors. For example, the P/E ratio for medium-sized companies included in the mWIG40 index rose from 9.0 to 34.7 between January 2005 and June 2007, and this growth was even higher in the category of smaller companies.

Excess concentration of investments on a small number of markets poses a particular challenge, should an asset bubble develop and burst. This development would be the more dangerous that open pension funds cannot hedge their portfolios against the fall in prices. It is worthwhile to mention that pursuant to the Regulation of the Council of Ministers of 13 September 2005<sup>8</sup>, it was anticipated that as from 1 January 2006, open pension funds could take recourse to derivatives to provide hedging to their investment portfolios. Regrettably, in December 2005, this Regulation was repealed<sup>9</sup>, and henceforth, as of today, should prices go into a significant decline, open pension funds have no other instruments to hedge the value of their portfolios but to sell some of their equities. Given a high value of share portfolio, such a sale would significantly aggravate the decline.

I believe that joint actions must be undertaken in order to minimize the threats of asset bubbles resulting from effective regulations in the sector of open pension funds, to better diversify investment portfolios as well as to enhance the sector's prospective levels of return. In order to achieve those goals, we have to commit ourselves to:

- increase the limit on foreign investment and gradually modify some terms and conditions of using them from the current level of 5% to 30% of assets,
- allow open pension funds to take recourse to derivatives with a view to hedging their investment portfolios,
- in a longer perspective, gradually raise the open pension funds' limit on investment in equities from 40% to 60%.

Pension funds should invest a large part of their portfolios in equities because the return on equities should exceed that of debt instruments over a long horizon. CalPERS, the world's

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<sup>7</sup> Rozwój systemu finansowego w Polsce w latach 2002-2003, Narodowy Bank Polski, December 2004, p. 120.

<sup>8</sup> Regulation of 13 September 2005 concerning the deposits of a pension fund, Polish Journal of Laws – Dz. U., No. 186/2005, item 1549).

<sup>9</sup> Regulation of 20 December 2005 repealing the regulation concerning the deposits of a pension fund, (Dz. U. No. 260/2005, item 2180).

largest pension fund, invests 45% of assets in equities on the US market and 20% in equities quoted on foreign markets. In Chile, the structure of pension fund portfolio as of the end of 2006 was as follows:

domestic Treasury bonds -13%, domestic equities -17%, other domestic debt securities -22%, foreign equities and certificates of participation in investment funds -32%. In Argentina and Peru, the foreign assets accounted for ca. 10% and 14%, respectively, of pension funds assets.

The findings of Fisher Black's studies indicate that the foreign positions should be hedged against exchange rates risk. His famous work shows that the optimal hedge ratio amounts to 77% for investment in equities<sup>10</sup>. Open pension funds could manage their investment portfolios more effectively if they were allowed to invest in derivatives (equities, interest rate instruments and currencies), because – not infrequently – transactions costs on derivatives are much lower than the costs involved in cash market. By way of illustration, the costs in the US cash market are over five times higher than the costs in the market of stock index futures<sup>11</sup>. Additionally, this step could also contribute to the development of the derivatives market in the WSE.

It is worth remembering too that as early as in 1974, a well-known study by Bruno Solnik<sup>12</sup> provided an example of American investors to show that the risk of investment portfolio composed of ca. 20 international equities (international dispersion) is twice lower as compared to the portfolio of domestic equities only.

Amendments introduced the legal provisions with the aim to extend investment possibilities of open pension funds, to provide better diversification and to decrease investment risk would fall within the trend currently observed in many countries. All over the world, pension funds may invest abroad, taking even recourse to hedging funds to this end<sup>13</sup>. In most OECD Member States, pension funds may hedge the value of investment portfolio on derivatives<sup>14</sup>.

Those changes depend on thorough restructuring of supervision over the open pension funds sector, i.e. the development of a supervision system based on the assessment of risk of open pension funds' portfolio (risk-based supervision). The supervisory institutions should not concentrate on analyzing formal restrictions imposed onto open pension funds by law, but they should examine the risk of the entire portfolio instead. This development has been widely observed also in other supervisory areas (banks, insurance companies).

By way of recapitulation, let me outline the infrastructure of the European clearing system in about 10 years' time, as prepared by the NBP.

At first, let me define the main elements of this infrastructure, which include:

1. trade platform where transactions on the capital market are performed,
2. central counterparties (CCP) performing the clearing functions on the capital market,
3. securities settlement systems (central depositories) performing the depository and settlement functions

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<sup>10</sup> Black F. (1989), "Universal Hedging: Optimizing Currency Risk and Reward in International Equity Portfolios", *Financial Analysts Journal*, July-August 1989.

<sup>11</sup> Carhart M. (2003), "Global Tactical Asset Allocation" in Litterman R. (ed) "Modern Investment Management", Goldman Sachs Asset Management, John Wiley and Sons, New Jersey, 2003.

<sup>12</sup> Solnik B. (1974), "Why Not Diversify Internationally Rather Than Domestically?" *Financial Analysts Journal*. 30, 4 (July/August 1974). Reprinted in *Financial Analysts Journal*. 51, 1 (January/February 1995).

<sup>13</sup> Stewart F., *Pension Fund Investment in Hedge Funds*, OECD Working Papers on Insurance and Private Pensions, No. 13. OECD September 2007.

<sup>14</sup> *Survey on investment regulations of pension funds*, OECD, July 2007.

4. payment systems, which process the cash settlement of a transaction,

Beyond doubt, this model is simplified a bit and serves only as a starting point for further analysis. I would like to confine it to two elements: securities settlement systems and payment systems.

Securities settlement systems and payment systems currently comprise a couple of large systems of international, pan-European or even global character (e.g. CLS) operated either by private institutions (Euroclear, Clearstream, EURO1 and STEP2) or by central banks (TARGET) as well as by many domestic and local systems, including central depositories of securities and depositories maintained by central banks, clearing houses and other systems, e.g. card systems.

On account of the adopted diverse legal and market solutions, the present system of capital market infrastructure cannot be deemed optimal. For many years already, significant action has been adopted on the EU level with a view to establishing an efficient and safe European market, where those transactions will be executed with similar effectiveness both on domestic and cross-border levels.

Those activities, undertaken both by the public authorities and by the market, are aimed at achieving:

1. legal harmonization,
2. systemic standardization and harmonization,
3. subjective consolidation,
4. systemic integration, and
5. technical integration.

It is extremely difficult to predict future developments in each of those domains. Apparently, the harmonization and integratory action which I have just mentioned and which has been undertaken recently, will lead to a situation that can be predicted to some extent. What changes will the future bring in comparison to what we have now?

As regards the securities settlement system, a new large player is about to appear in a couple of years. TARGET2-Securities operated by the European Central Bank will integrate the settlement function which is now executed by domestic systems of securities settlement. It may also be assumed that owing to consolidation processes, the number of central depositories in the EU will diminish. I would venture the claim that in the context of the development of TARGET2-Securities and CCBM2, the number of deposits maintained at central banks is going to decline<sup>15</sup>.

As regards the payments systems, in a month, the TARGET2 system will be established to take over RTGS systems in individual EU Member States. Furthermore, an additional system will be launched soon to offer communication between the domestic clearing houses under the auspices of their organization, the EACHA<sup>16</sup>. Thus, the most effective and best adjusted to SEPA standards local clearing houses may become less numerous but they should not

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<sup>15</sup> CCBM2 (Collateral Central Bank Management) is designed to be a mechanism which allows the use of securities deposited at foreign central depositories of securities to collateralize monetary policy operations pursued by the Eurosystem and to collateralize mid-day credit in the RTGS system.

<sup>16</sup> EACHA (European Automated Clearing House Association), the association established on 28 September 2006, grouping the representatives of 20 automated clearing houses. EACHA aims to:  
- be a forum for the sharing of information and experience amongst its members and undertake work on the issues of general interest to the payment industry, in particular to develop common standards for SEPA interbank clearing and settlement.

close down, contrary to the least effective ones or those which will not switch into SEPA standards in due time.

I would then put forward a hypothesis that harmonization and integration will lead to the enhanced integration of the systems within the area of payment and settlement services, new systems of pan-European character will develop or will be launched but domestic systems will not come out of use altogether. They will either adjust themselves to the all-European standards or are likely to continue operating also transactions of local or specific character, which will not be eligible for processing via the all-European standards.

Ladies and Gentlemen, despite turmoil on the global financial markets, the financial market in Poland is developing very fast. However, there are probably serious challenges in the pipeline, related to developments on some markets and to the changing architecture of the financial system in Europe. We have to face those challenges so that future generations of Poles can benefit from the ever better functioning of the financial market in Poland over the decades to come.

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