Abstract of the articles

ON THE WAY TO AMA AT ERSTE BANK HUNGARY

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Managing and modeling operational risk is one of the greatest challenges in the process of Basel II implementation, as this risk category has not been captured in the current risk regulatory regime. This article provides a review of the operational risk measurement concept and its implementation strategy of Erste Bank Hungary (EBH), where EBH works together with ITCB Consulting and Training.

Nowadays more and more institutions share their practice via publications and conference presentations to enhance „best practice" solutions (e.g. *Aue–Kalbrener* [2006]). This article follows this tendency.

Our main presumption is that loss data solely do not provide adequate basis for risk assessment due to dynamic changes in previous period and relatively short period of loss data collection practice, expert judgments and scenario analysis techniques should be also involved in risk measurement. Therefore EBH emphasizes the importance of risk self-assessment techniques. The final goal of operational risk modeling is to provide suitable inputs for risk monitoring and management actions. First we present the status of preparation process of EBH, afterwards the overall model concept (risk self-assessment, scenario analysis, risk mitigation techniques) is reviewed. Finally we compare [EBH's] operational risk strategy with other possible strategies.

OPERATIONAL DISRUPTION AND THE HUNGARIAN REAL TIME GROSS SETTLEMENT SYSTEM (VIBER)

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Central bankers wish to ensure worldwide, that large-value transfer systems, as a component of the key market infrastructure, exhibit sufficiently robust level of operational resilience. We focus on the operational resilience of Hungarian real time gross settlement system, known as VIBER. The goal of the research is the quantitative assessment of the ability of the system to withstand certain types of operational shocks. We shed light on the capacity of the system to function smoothly in the event of operational problems by simulating the technical default of one or two systemically important participants in VIBER. Altogether six hypothetical scenarios were formed, three entire-day incidents and three part-time incidents. The impact of behavioural reactions of technically non-defaulted participants and the application of existing back-up procedures are also considered. The disturbance in the payment system was measured by various indicators. By means of gross and net liquidity deficit indicators liquidity assistance required to settle all previously rejected transactions is calculated. By comparing the value of unsettled payments with the value of eligible collaterals in the banks' balance sheet we can gain insight whether the liquidity deficit can be financed through normal monetary policy operations.

ANALYSIS OF OPERATIONAL RISK OF BANKS – CATASTROPHE MODELLING

Dániel Homolya– Gábor Benedek

Nowadays financial institutions due to regulation and internal motivations care more intensively on their risks. Besides previously dominating market and credit risk new trend is to handle operational risk systematically. Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. First we show the basic features of operational risk and its modelling and regulatory approaches, and after we will analyse operational risk in an own developed simulation model framework. Our approach is based on the analysis of latent risk process instead of manifest risk process, which widely popular in risk literature. In our model the latent risk process is a stochastic risk process, so called Ornstein-Uhlenbeck process, which is a mean reversion process. In the model framework we define catastrophe as breach of a critical barrier by the process. We analyse the distributions of catastrophe frequency, severity and first time to hit, not only for single process, but for dual process as well. Based on our first results we could not falsify the Poisson feature of frequency, and long tail feature of severity. Distribution of „first time to hit" requires more sophisticated analysis. At the end of paper we examine advantages of simulation based forecasting, and finally we concluding with the possible, further research directions to be done in the future.

LOSS DISTRIBUTION APPROACH (LDA)
FOR MODELLING OPERATIONAL RISK

Gáll József–Nagy Gábor

In this paper we summarise the theoretical background of loss distribution approach (LDA) for modelling operational risk and consider the necessary statistical methods for its application. The theory of LDA discussed in this paper is certainly known in the literature – including the directives of the (regulatory) authorities –, hence the derivation of further theoretical results and the proposal of possible new models are not among our aims in this paper. However, we find it fairly important to consider issues of the applications and to present some problems (e.g. model selection, statistical problems) which might be crucial to the successful applications of the method in a financial institution. For this, we discuss several examples and results on simulations to show the consequences of the regulations and of our decisions in model specification to the capital requirement for operational risk based on LDA.

KEY RISK INDICATORS AND THEIR FIELD OF APPLICATION

Gabriella Lamanda

The calculation of operational risk capital requirements and the risk management mean great achievement for institutions. They should adopt different methodologies for risk identification, assessment, monitoring and mitigation. The process-specific key risk indicators provide a reliable basis for estimating the operational risk profile. The role of them is relevant in the monitoring and forecasting of operational risk. It is essential to design the appropriate indicators, otherwise it is hard to get a real picture of changing of risk exposures. The purpose is to identify potential high-risk hotspots and anticipate the potential problems before they occur.