The first part of this paper is dedicated to different methods of managing market, operational and credit risks in banking following the regulatory documents (Basel I and Basel II) and internal pricing models. The Value at Risk model and the theory of extreme values internal models are described as the most widely used among risk managers. Most often used methods of credit risk pricing such as CreditRisk+, CreditMetrics and KMV Corporation model also depicted in details. In the scope of the last model the probabilistic distribution of the amount of expected and unexpected loss is estimated for the theoretical portfolio of credit products using Monte Carlo simulation techniques. The second part of the diploma thesis describes activities of the Czech Deposit Insurance Fund and similar institutions in such countries as Italy, Great Britain, USA and some others. Based on the collective risk process mathematical model of the Fund performance is worked out here as well. Based on it the probability of its ruin under specific conditions has been estimated.