The aim of the thesis is to estimate the cost efficiency of the banks from the Czech Republic, Hungary, Poland, and Slovakia during 2008-2013 using stochastic frontier analysis. In addition to this, mutual relationships between the changes in banks' cost efficiency, risk-taking, and capital position are examined. First, the literature that is concerned with these relationships is reviewed and the stochastic frontier approach towards the efficiency estimation is outlined. In the empirical analysis, the cost efficiency of the banks from the aforementioned countries is estimated. The results suggest that the Czech and the Polish banks from the sample have the highest average cost efficiency while the Hungarian banks rank the lowest. The estimated efficiency is decreasing during the sample period. No conclusive results are found to support the hypothesis that the larger banks exhibit higher cost efficiency. Subsequently, the system of simultaneous equations is applied to test the mutual relationships between the changes in the banks' cost efficiency, risk-taking, and capital position. The results suggest a negative relationship between the changes in risk-taking and cost efficiency and between the changes in capital position and risk-taking of the banks. Moreover, the results do not indicate simultaneous determination of these variables in the system.