This thesis is focused on options of improving the estimate of volatility of the given financial time series by analysing the economical news headlines. Because of very large volume of data and correlation between word occurrence in headlines, the Principal Component Analysis is used to reduce the dimension of data space. For the elimination of significantly large skewness of dependent variable and the preservation of its normality a Box-Cox transformation is used. Finally, a linear model is constructed and its robustness is analyzed by cross-validation method. The computations were made by R software.