

The thesis introduces Artificial Neural Networks (ANN) to the field of financial durations. We begin by reviewing the findings about financial durations and models applied to analyze them. ANNs are then surveyed and one of the possible network architectures is selected for the forecasting. The selected ANN is a feed-forward network, with one hidden layer, a sigmoid activation function and a genetic algorithm for optimization. We use original and diurnally adjusted data for estimation and in contrast to other duration models, ANNs do not require data pre-processing. Therefore forecasts are estimated in one step without removing seasonalities for raw data. The estimates of the ANN are compared to estimates of the Autoregressive Conditional Duration (ACD) model, which serves as a benchmark for forecasting capabilities of the ANNs. The findings confirm that ANNs can be used to model durations with a similar accuracy as the ACD model. In the case of raw data the model slightly outperforms the ACD model, while the opposite is true for adjusted data, however the forecasting ability difference is not significant.