Abstract:

Presented study analyzes interest rate risk associated with the possession of given fixed coupon bond. In the first chapter, we define some of the basic concepts and provide description of available data. These are historical data on spot interest rates of zero-coupon bonds for various times to maturity which will be used for the construction of the yield curves. Based on these bond yield curves we evaluate the bond, thus obtaining a picture of the evolution of its price. Later on, we try to estimate its price tomorrow. We present two approaches how to deal with this problem. First approach is the normal interest rate risk analysis based on duration and convexity, second approach is the method of principal components which will be applied to the historical daily changes in yield curves. The method of principal components is introduced in detail.