

On Estimating the Yield and Volatility Curves.

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Abstract: Yield curve and yield volatilities are important inputs for pricing interest rate derivatives, for generation of interest rate scenarios, etc. Nonanticipated errors in their estimates may essentially influence the resulting prices, yields and risks. In this paper we explore and compare several types of parametric and nonparametric regression models suitable for estimation of the two curves. In contrast to purely numerical fitting procedures, these methods provide also an information about the precision of the fitted curves and a test of the goodness-of-fit of the postulated parametric model. The parametric models of yield curves are represented by the nonlinear and linearized Bradley–Crane model which is compared with Nadaraya–Watson and Priestley–Chao nonparametric estimators and with cubic splines. The reported numerical experience is based on data from the Italian bond market.

Keywords:

AMS Subject Classification: