

Abstract

We adapt the Meiselman (1962) OLS forward rate revision framework to obtain the discrete time analogue of the Heath, Jarrow and Morton (1992) specification and use it for estimating and testing term structure models. Our framework is based upon the Wold representation of the factor dynamics and combines the flexibility of the ‘no arbitrage’ approach used by practitioners for pricing with the time series domain econometrics used in the ‘equilibrium approach’ by academic researchers. It allows us to estimate the no-arbitrage term structure under the risk-neutral measure without adopting any specific model of the factor dynamics. Using three different datasets we find that our discrete time Heath et al (1992) no-arbitrage model is not rejected against the unrestricted OLS model of Meiselman (1962). We then develop a dynamic term structure model by specifying a model of a risk premium to link the risk neutral dynamics of the cross section to the real-world factor dynamics. We analyze several different models of the dynamics from the ARFIMA class and find that the more flexible models allowing for long memory outperform short memory models and are not rejected against the Heath et al and Meiselman specifications.