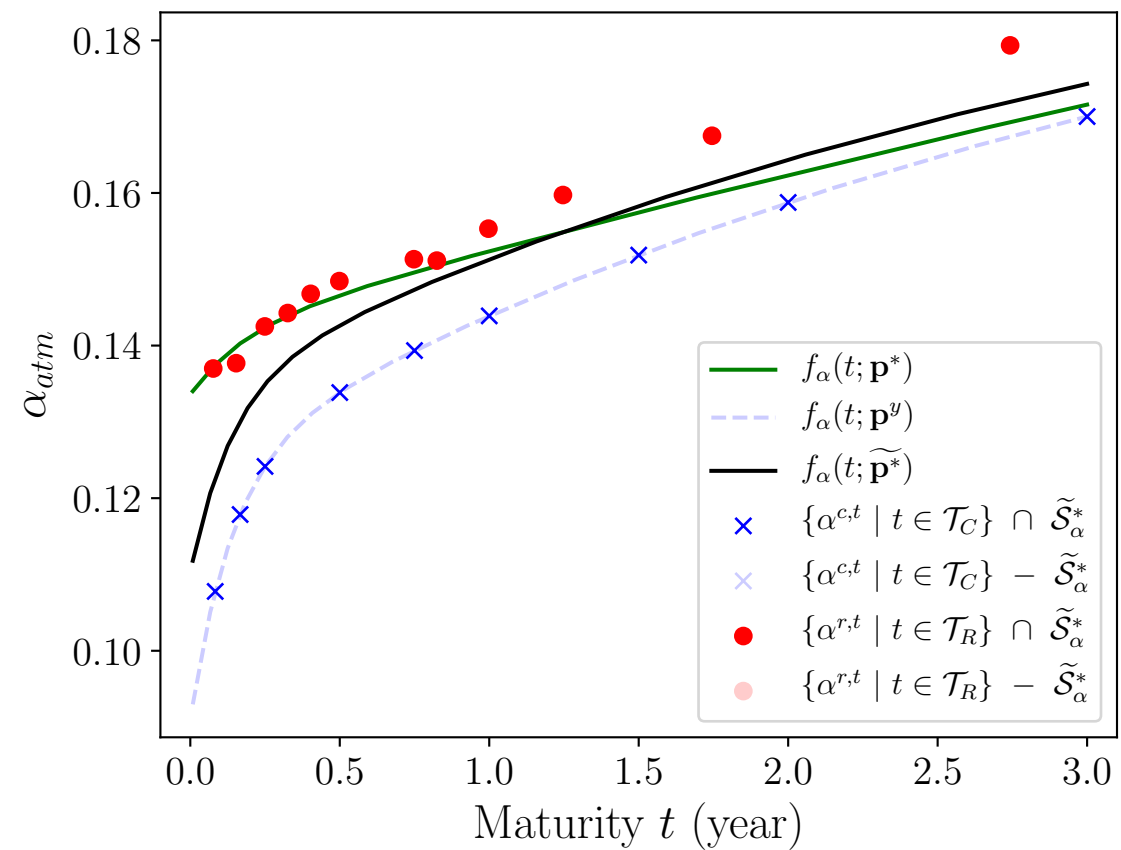
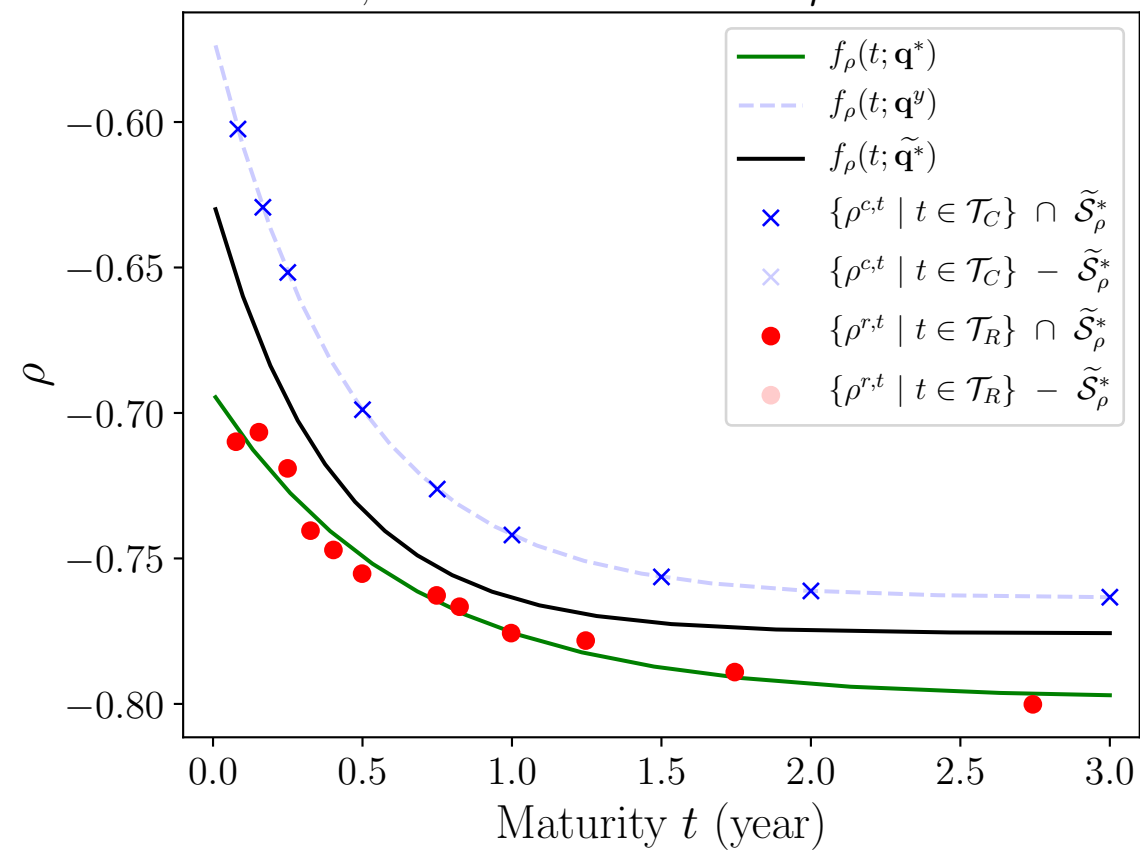


S&P500, Parametric Curve of  $\alpha_{atm}$  at 2019-03-22.S&P500, Parametric Curve of  $\rho$  at 2019-03-22.S&P500, Parametric Curve of  $\nu$  at 2019-03-22.