

Market-consistent actuarial valuation of insurance liabilities is important approach not only for regulatory framework Solvency II but also generally for financial and actuarial modeling in insurance companies. It is the reason why we will focus on derivation of basic theory for valuation of cash flow from insurance liabilities by real world probability measure with deflators and risk neutral measure with bank account numeraire (also called equivalent martingale measure). We will show on illustrative examples equivalence of both approaches. Further, we will focus on spot rate modeling using discrete time Vasicek model. We use discrete time Vasicek model in Valuation Portfolio theory, where we are trying to replicate insurance liabilities by financial instruments. In theory and also example we use important assumption about independent decoupling of financial events and insurance technical events for their modeling.