

We provide existence, comparison and stability results for one-dimensional backward stochastic differential equations (BSDEs)

$$Y_t = \xi + \int_t^T F(s, Y_s, Z_s) ds - \int_t^T Z_s dW_s \quad 0 \leq t \leq T,$$

when the coefficient F is continuous and has quadratic growth in Z and the terminal condition ξ is bounded. We also give, in this framework, links between the solutions of BSDEs set on a diffusion and the viscosity or Sobolev solutions of the corresponding semilinear partial differential equations. These results apply in particular for contingent claim pricing via utility maximization.