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REFLECTED BSDE WITH SUPERLINEAR QUADRATIC COEFFICIENT

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Abstract: In this paper, we provide existence of a reflected solution of the one-dimensional backward stochastic differential equation when the coefficient is continuous, has a superlinear growth in y and quadratic growth in z. We also give a characterization of the solution as the value function of an optimal stopping time problem. We also study the links between the solution of the quadratic RBSDE and the corresponding obstacle problem. Then we give an application of quadratic RBSDE's to the pricing of American contingent claims in an incomplete market.

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