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Longevity bond pricing in equilibrium

We consider a partial equilibrium model for pricing a longevity linked bond in a model with stochastic mortality intensity that affects the income of economic agents. The agents trade in a risky financial security and in the longevity linked bond in order to maximize their utilities. Agent's risk preferences are of monetary type and are described by BSDEs (backward stochastic differential equations). The endogenous equilibrium bond price is characterized by a BSDE. By using Clark-Hausmann formula, we prove that our longevity bond completes the market.