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*Optimal Investment and Liability Ratio Policies in a Multidimensional Regime Switching Model*

We consider an insurer who faces an external jump-diffusion risk that is negatively correlated with the capital returns in a multidimensional regime switching model. The insurer selects investment and liability ratio policies continuously to maximize her/his expected utility of terminal wealth. We obtain explicit solutions of optimal investment and liability ratio policies for logarithmic and power utility functions. We study the impact of the insurer's risk attitude, the negative correlation between the external risk and the capital returns, and the regime of the economy, on optimal policy.[This is a joint work with Bin Zou].