

On pricing longevity bonds under a credibility regression framework for populations with limited data

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Abstract

It is known that one way to hedge longevity risk can be attained with the process of securitization through mortality-risk securities. This process requires an accurate prediction of the future mortality dynamics with an appropriate mortality model. However, a major issue in mortality modelling is the reliability or other limitations regarding the quality and the size of the available mortality data of a given population. In this talk, we propose a mortality modelling framework, which is based on credibility theory, aiming to capture the future mortality trends, especially for population datasets of limited available observations and then, we show how this approach is incorporated in longevity bond pricing. To ensure applicability in our illustrations, the longevity bond is based on the mortality data of Greece, a country with limited publicly available data.

Keywords: Credibility Mortality Modelling; Longevity Risk; Longevity Bond.

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