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**Feature Articles** 

## Pricing and Hedging Variable Annuity Guarantees with Multiasset Stochastic Investment Models

Andrew Cheuk-Yin Ng & Johnny Siu-Hang Li

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## Notes

By natural filtration we mean the information up to and including time t.

It would be numerically very difficult to ensure that H  $_{\rm t}$  is a covariance matrix if its structure is specified arbitrarily. It is typical to use an eigenvalue-eigenvector decomposition to ensure the positive definiteness of a matrix. As the dimension of the matrix increases, such a procedure becomes increasingly time-consuming and unstable.

We refer readers to Appendix A of Panjer et al. (<u>1998</u>) for definitions of a Radon-Nikodym derivative and a measurable event.

Siu et al. (2004) used similar arguments in deriving a univariate risk-neutral GARCH model.

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