



Optimization >

A Journal of Mathematical Programming and Operations Research

Volume 58, 2009 - [Issue 7: Second International Conference on Optimization and Optimal Control, dedicated to the memory of Prof. Dr. Oleg V. Vasiliev, Ulaanbaatar, Mongolia, July 17-20, 2007; Guest Editors: Altannar Chinchuluun, Rentsen Enkhbat and Ider Tseveendorj](#)

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On the resolution of the Vasicek-type interest rate model

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Pages 809-822 | Received 28 Sep 2007, Accepted 01 May 2008, Published online: 28 Oct 2009

Cite this article <https://doi.org/10.1080/02331930902944101>

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Abstract

This work considers the resolution of the Vasicek-type interest rate model. A deterministic process is adopted to model the random behaviour of interest rate variation as a deterministic perturbation. It shows that the solution of the Vasicek-type interest rate model can be obtained by solving a non-linear semi-infinite programming problem. A relaxed cutting plane algorithm is then proposed for solving the resulting optimization problem. The numerical results illustrate that our approach essentially generates the yield functions with minimal fitting errors and small oscillation.

Keywords:

semi-infinite programming

interest rate model

62P05

46N10

Acknowledgements

The authors would like to thank the referees for their very constructive comments in revising this article.



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