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Calculation of the convexity adjustment to the forward rate in the Vašíček model for the forward in-arrears contracts on LIBOR rate. (English) [Zbl 1454.91319](#)

Theory Probab. Math. Stat. 99, 189-198 (2019) and Teor. Jmovirn. Mat. Stat. 99, 168-176 (2018).

In the present paper the authors consider in-arrears forward contracts. They show that the forward rate $iL(t, T_1, T_2)$ of an in-arrears contract is always larger than the forward rate $L(t, T_1, T_2)$. As a consequence, the difference, which is called the convexity adjustment, is positive. The authors consider the situation where the forward rates are given by a Vašíček model, and show that in this case the convexity adjustment is given by the formula

$$CA(t, T_1, T_2) = \frac{1}{T_2 - T_1} \frac{P(t, T_1)}{P(t, T_2)} (e^I - 1),$$

where I is a constant which is explicitly given by the model parameters. They also deal with properties of the convexity adjustment and consider in-arrears options on the interest rate.

Reviewer: [Stefan Tappe \(Freiburg\)](#)

MSC:

91G30 Interest rates, asset pricing, etc. (stochastic models)

Keywords:

convexity adjustment; forward rate agreement; Vašíček model; no-arbitrage market; in-arrears LIBOR; iFRA

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