



## On the forward curve equation of the bond market

JERZY ZABCZYK<sup>1</sup>

<sup>1</sup> *Institute of Mathematics, Polish Academy of Sciences*  
e-mail: J.Zabczyk@impan.gov.pl

### ABSTRACT

The talk is devoted to the stochastic partial differential equation for the forward curve of the bond market, in the Musiela parameterization, and the Heath-Jarrow-Morton framework. The noise process is of Levy type. Existence of the solutions is discussed both for the case of linear and general volatilities. Special attention is paid to the long time behaviour as well as positivity of the solutions. Positivity of the spread process, in the case of defaultable bonds, is considered as well.

The results were obtained in collaboration with S. Peszat and A. Rusinek.