DIPARTIMENTO DI METODI E MODELLI
PER L'ECONOMIA IL TERRITORIO E LA FINANZA
MEMOTEF

SAPIENZA
UNIVERSITÀ DI ROMA

ON SKEWNESS IN INTEREST RATES

Giacomo Morelli[1]

Lea Petrella[2]

ABSTRACT

This paper proposes a model for interest rates under a non-Gaussian assumption. We move from the unsuitability of the Brownian motion for modelling the path of interest rates and rather consider a stylized fact for financial quantities: skewness. In particular, we introduce and discuss a discrete time extension of the Vasicek model under a skew distribution. In this framework, a closed form formula for the unconditional dynamics of the interest rates is derived. Moreover, we compute the price for zero-coupon bond under skewness.

Classification JEL: *C18, C49, G12*
Keywords: *Closed Skew Normal, Interest rates, Skew Vasicek, Bond pricing*

Working Paper n° 162
Settembre 2019

[1] Department of Economics and Finance – Luiss University – Viale Romania, 32, 00197, Rome (e-mail: ✉ morellig@luiss.it).
[2] Department MEMOTEF – Sapienza University of Rome – Via del Castro Laurenziano, 9, 00161 Rome (e-mail: lea.petrella@uniroma1.it).