

# International term structure dynamics and Immunisation

by

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## Abstract:

The stochastic process followed by the term structure has major effects on the value of financial firms since it affects directly its assets and liabilities. The awareness of financial risk management has become more and more important for bank and insurance managers since the collapse of the Bretton Woods act in 1971. Indeed we observe a sharp increase of term structure volatility and frequent negative term structures affecting considerably the interest rate risk of those firms.

The purpose of this paper is precisely to give some empirical notions of the term structure dynamics and to evaluate the performance of financial risk immunisation techniques. This paper will be divided into two separate parts

Firstly, on the basis of international term structures estimated by the Cox-Ingersoll & Ross (1985) from January 1985 until December 1991, we provide general term structure statistics and we measure their sensibilities. We also revise the orthogonality argument of the short term rate *vis-à-vis* the long term rate mentioned by Ayres & Barry (1980). We found distinctions between countries that differentiate the main published results as far as the orthogonality argument, the term structure volatility and the term structure sensibility are concerned.

Secondly, on the basis of these empirical results we elaborate immunisation strategies and compare their international performance. We observe that simple strategies provide excellent results and we confirm the conclusions of Nelson & Schaefer (1983)

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