

## **Two-factor Convergence Model of Cox-Ingersoll-Ross Type**

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Corzo and Schwartz [2000, Convergence within the European Union: Evidence from Interest Rates, Economic Notes 29] proposed a short-rate model for a country before adopting the Euro currency, which is based on the Vasicek model. In the first part of this work we provide a correct solution of the Corzo and Schwartz model and study an analogous model with the Cox-Ingersoll-Ross model applied. We show that the separation of the bond price can be done only in the case of uncorrelated increments of Wiener processes in stochastic differential equations for the European and domestic rates. Taking the bond price for an uncorrelated case as an approximation of a case with a correlation, we show that the difference between the logarithm of the bond price with and without a correlation is of the third order with respect to the time of maturity. In the second part of this work we propose a simple method for estimating parameters and compare both convergence models.