

ERRATUM

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STOCHASTIC ACTUARIAL MODELLING OF A DEFINED-BENEFIT SOCIAL SECURITY PENSION SCHEME: AN ANALYTICAL APPROACH

Page 136: Add the following sentence at the end of the last paragraph:

“Note that the square of a function, that is $(f(\cdot))^2$, is sometimes indicated as $f^2(\cdot)$.”

Page 146, second paragraph under 4.2.1: The last sentence should read:

“Strictly speaking, in the case of funded systems, the reference here should be to the *discounted* benefit and salary projections.”

Page 147, 4.2.2: The first sentence should read:

“In the framework of the continuous formulation of the theory in this paper, the *PAYG* system balances the income and outgo at each point in time.”

Page 147: In (28), replace “ $DS(t)$ ” by “ $S(t)$ ” and “ $DB(t)$ ” by “ $B(t)$ ”.

Page 149: Replace the first sentence after (32) by the following text:

“The lognormal approximation cannot be applied to $F(t)$ because its expression — see first line of (33), with due regard to the definition of $K(z)$ — involves a lognormal term with a negative sign, which could predominate; therefore this is also the case with $\Omega(t)$. To obtain confidence limits for $\Omega(t)$, either Fieller’s method or the normal approximation will need to be used — see last paragraph of Appendix C.”

Page 175: The last sentence should read as follows:

“As the relative importance of the latter term increases with $N(0)$, for sufficiently high values of $N(0)$ the first term could be neglected, which facilitates the statistical analysis — see B3 of Appendix B.”

Page 180: [37] should read as follows:

$$u = \frac{vz - \mu}{(\theta^2 z^2 - 2\phi z + \sigma^2)^{1/2}}$$

Page 181, first line: The text enclosed within brackets should read, “(preferably, less than $1/3$)”

Page 181: Add the following paragraph after [40]:

“If x or y cannot be assumed to be lognormal but both are regarded as approximately normal, Fieller’s method — see [37] — might be applied, subject to the stated condition being satisfied and to reasonable results being obtained, or the normal assumption could be applied directly to z , with recourse to the approximate expressions in [36].”