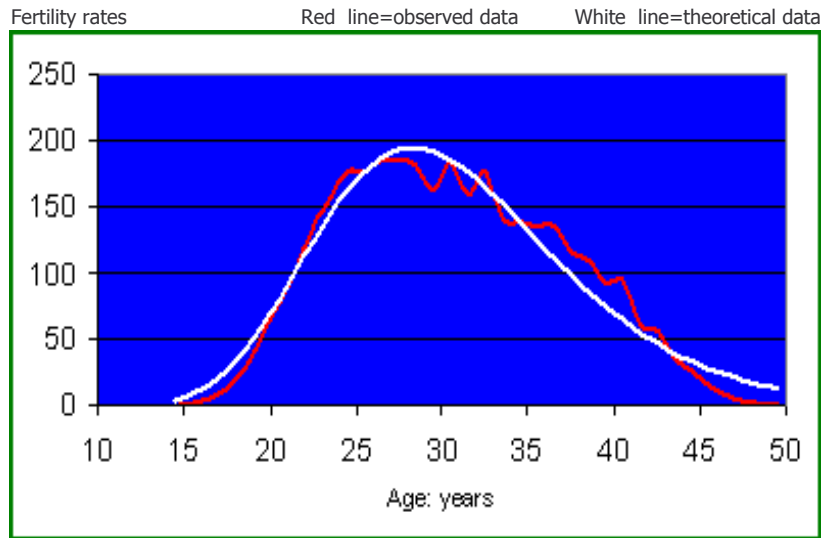


FERTILITY FUNCTIONS

(Source: Petrioli Luciano, "PRODEMOG 3.0-Demographic software for Windows", EMMECI-SIENA-ITALY,(2000).

LOG - NORMAL



Age-specific fertility rates: Italy, year 1931

The density function for Log-normal is:

$$f(x) = \frac{C}{Bx\sqrt{2\pi}} e^{-0.5 \cdot [(\ln x - A) / b]^2} \quad [1]$$

The parameters are A, B and C, where C indicates the TFT.
Mean and variance are: respectively:

$$MED = e^{A + 0.5B^2} \quad ; \quad DS = e^{2A + B^2} (e^{B^2} - 1) \quad [2]$$

hence the values of the parameters are:

$$A = \ln \left[MED^2 / \sqrt{MED^2 + DS} \right] \quad ; \quad B = \sqrt{\ln \left[(MED^2 + DS) / MED^2 \right]} \quad [3]$$