Table 17.5. *Standard Parametric Models and Their Hazard and Survivor Functions*[a]

Parametric Model	Hazard Function	Survivor Function	Type
Exponential	γ	$\exp(-\gamma t)$	PH, AFT
Weibull	$\gamma \alpha t^{\alpha-1}$	$\exp(-\gamma t^{\alpha})$	PH, AFT
Generalized Weibull	$\gamma \alpha t^{\alpha-1} S(t)^{-\mu}$	$[1 - \mu\gamma t^{\alpha}]^{1/\mu}$	PH
Gompertz	$\gamma \exp(\alpha t)$	$\exp(-(\gamma/\alpha)(e^{\alpha t} - 1))$	PH
Log-normal	$\dfrac{\exp\big(-(\ln t - \mu)^2/2\sigma^2\big)}{t\sigma\sqrt{2\pi}[1-\Phi((\ln t-\mu)/\sigma)]}$	$1 - \Phi\left((\ln t - \mu)/\sigma\right)$	AFT
Log-logistic	$\alpha\gamma^{\alpha} t^{\alpha-1}/[(1+(\gamma t)^{\alpha})]$	$1/[1+(\gamma t)^{\alpha}]$	AFT
Gamma	$\dfrac{\gamma(\gamma t)^{\alpha-1}\exp[-(\gamma t)]}{\Gamma(\alpha)[1-I(\alpha,\gamma t)]}$	$1 - I(\alpha, \gamma t)$	AFT

[a] All the parameters are restricted to be positive, except that $-\infty < \alpha < \infty$ for the Gompertz model.