EXTREME VALUE THEORY

Risk and Asset Allocation* - Springer – *symmys.com

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www.symmys.com

Formulas and figures in this presentation refer to the book **Risk and Asset Allocation**, Springer.

The notation, say, (5.24) refers to Formula 24 in Chapter 5 of the book

The notation, say, (T4.12) refers to Formula 12 in the Technical Appendices for Chapter 4, which can be downloaded from www.symmys.com

conditional excess function

$$L_{\widetilde{\psi}}(z) \equiv \mathbb{P}\left\{X \leq \widetilde{\psi} - z \mid X \leq \widetilde{\psi}\right\} = \frac{F_X\left(\widetilde{\psi} - z\right)}{F_X\left(\widetilde{\psi}\right)} \quad (5.182)$$

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generalized Pareto cumulative distribution function

$$G_{\xi,v}(z) \equiv 1 - \left(1 + \frac{\xi}{v} z\right)^{-1/\xi} \quad (5.183)$$

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Pickands (1975) and Balkema and De Haan (1974)

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$$Q_c(\alpha) \approx \tilde{\psi} + \frac{v(\alpha)}{\xi(\alpha)}\left[1 - \left(\frac{1-c}{F_{\Psi_\alpha}\left(\tilde{\psi}\right)}\right)^{-\xi(\alpha)}\right] \quad (5.186)$$