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HW6

1. Definition –
Expected Utility:
$\mathbb{E}[U(x)] = \mathbb{E}\left[x - \frac{\alpha x^2}{2}\right]$
Certantiy Equivalent Value:
$U^{-1}(E[U(x)])$
$= \mu - \frac{\alpha}{2}\left(\mu^2 + \sigma^2\right)$
$= x_{\text{CE}} - \frac{\alpha x_{\text{CE}}^2}{2}$
Absolute Risk-Premium:
$\pi_{\text{A}} = \mu - x_{\text{CE}}$
$= E(U(x)) - X_{CE}$
$= \mu - \mu + \frac{\alpha\sigma^2}{2(1-\alpha\mu)}$
Hence $\pi_A = \frac{\alpha_0^2}{2(1-\alpha_p)}$