The inflator is then given by:

$$\Delta_t = Min\left\{ \frac{\psi}{2\sigma_t}, \exp\left\{ \left(\frac{Abs(B_t)}{B_{max}} \right)^{\omega_2} \ln\left(\frac{\psi}{2\sigma_t} \right) \right\} \right\} \qquad (2)$$

where:

ψ : average of 5 most extreme (absolute) returns in all available history of that asset, capped by a circuit-breaker if applicable.

B_{max} : largest absolute B_n observed in all history of that asset

σ_t : standard deviation of returns of the last 250 days

ω_2 = 0.5

- The form of the inflator ensures that buVaR is between VaR (lower limit) and a reasonable upper limit ψ, and grows with the *bubble*.

P&L, y, can be sampled. The buVaR at confidence level $q\%$ is the *expected shortfall* of the distribution y estimated over a 1-day horizon at $(1-q)$ coverage:

$$BuVaR_q = E(y \mid y < \mu) \quad \text{where} \quad Pr(y < \mu) = 1 - q \qquad (3)$$