AFTM

- $Y = \ln T = \mu + \gamma' Z + \sigma \cdot \omega$

- $T \sim$ Weibull $\leadsto$ $\omega \sim EV(0,1)$

  - $HR(t) = \dfrac{\lambda(t \mid \vec{Z}_1)}{\lambda(t \mid \vec{Z}_2)} \equiv HR = \exp\left(-\gamma' (\vec{Z}_1 - \vec{Z}_2)/\sigma\right)$

- $T \sim$ Log-logistic $\leadsto$ $\omega \sim$ Logistic $(0,1)$

  - $OR(t) = \dfrac{\text{odds}(T>t \mid \vec{Z}_1)}{\text{odds}(T>t \mid \vec{Z}_2)} = \dfrac{S(t \mid \vec{Z}_1)/1-S(t \mid \vec{Z}_1)}{S(t \mid \vec{Z}_2)/1-S(t \mid \vec{Z}_2)} \equiv OR$

    $= \exp\left(\dfrac{\gamma' (\vec{Z}_1 - \vec{Z}_2)}{\sigma}\right)$

- ⚠ The HR is different from the Risk Ratio

  $RR(t) = \dfrac{P(T<t \mid \vec{Z}_1)}{P(T<t \mid \vec{Z}_2)}$ is a function of t.