

Life Expectancy at Birth versus Lifespan Equality

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Average l_x

$$\overline{l_x} = \frac{\int_0^\omega l_x^2 dx}{e_0}$$

Inverse Gini Coefficient of Average l_x

$$G\overline{l_x} = (1 - \overline{l_x})^{-1}$$

Logit of Average l_x

$$\text{logit } \overline{l_x} = \frac{\overline{l_x}}{1 - \overline{l_x}}$$

Inverse Keyfitz' Entropy

$$H^{-1} = - \left(\frac{\int_0^\omega l_x \times \log l_x dx}{e_0} \right)^{-1}$$

Outer Rectangularization (ORR)

$$ORR = \frac{e_0}{\omega}$$

Maximum Inner Rectangle of l_x
(MIRA)

$$A = \max_{x \in \mathbb{N}} (l_x \cdot x)$$

Inner Rectangularization (IRR)

$$IRR = \frac{\max_{x \in \mathbb{N}} (l_x \cdot x)}{\omega}$$

Inverse Interquartile Range of l_x

$$IQR^{-1} l_x = (\arg_x(l_x = 0.25) - \arg_x(l_x = 0.75))^{-1}$$

Table 1: Measures of lifespan equality.

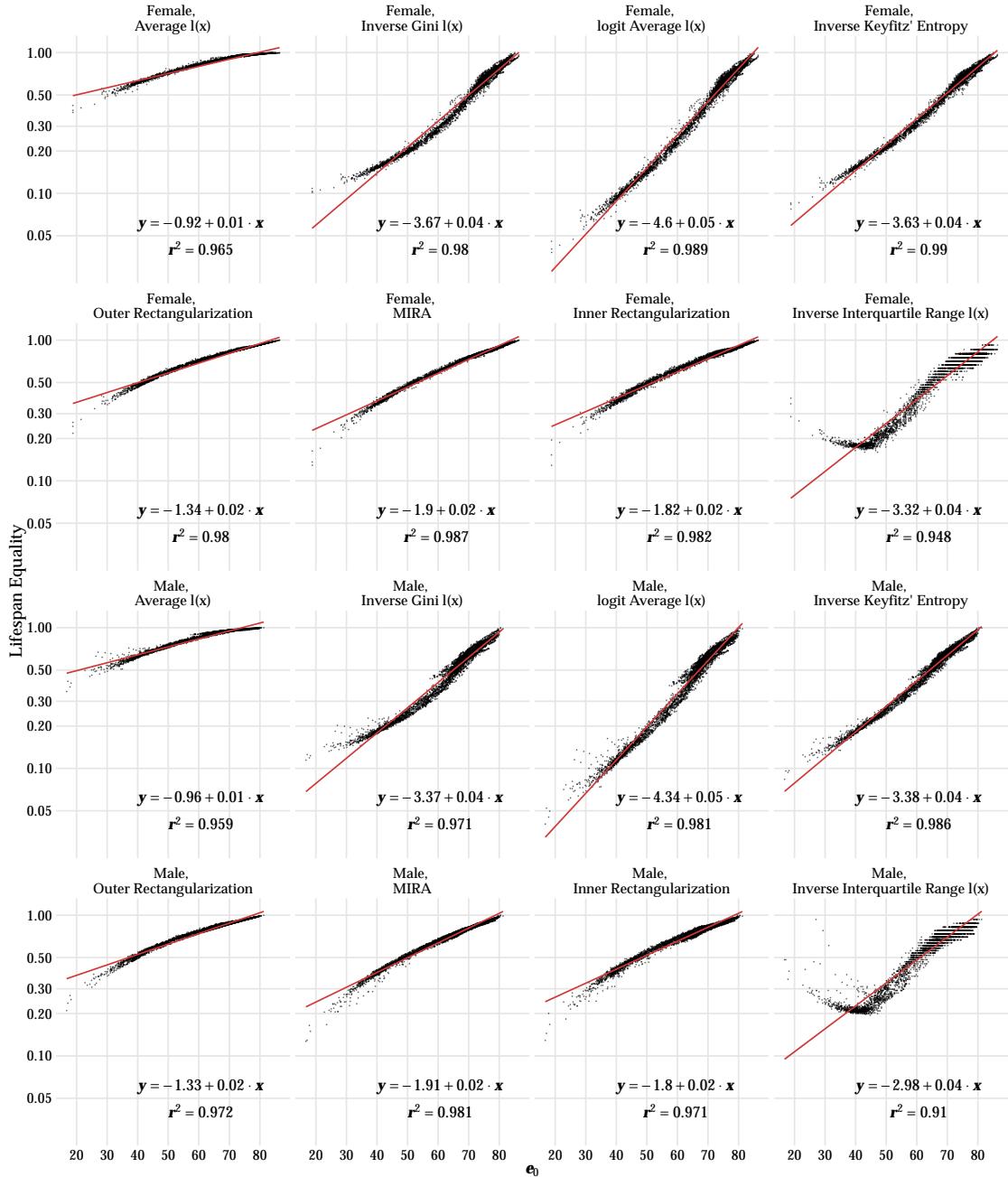


Figure 1: Different measures of lifespan disparity plotted versus life expectancy at birth. *Data source: HMD, male and female period lifetables.*

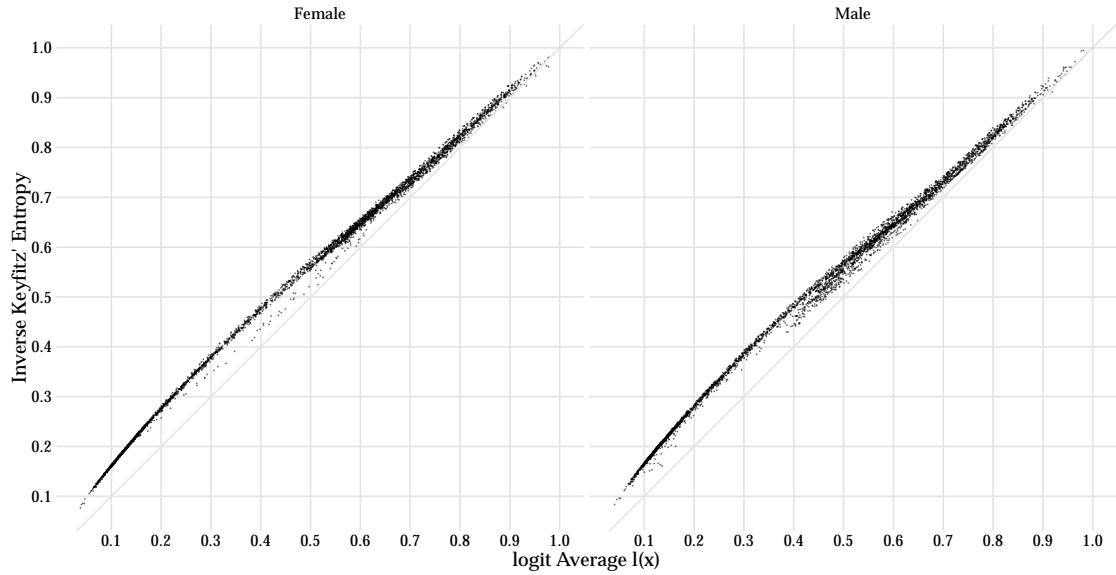


Figure 2: Logit of average l_x against Keyfitz' entropy. Data source: HMD, male and female period lifetables.

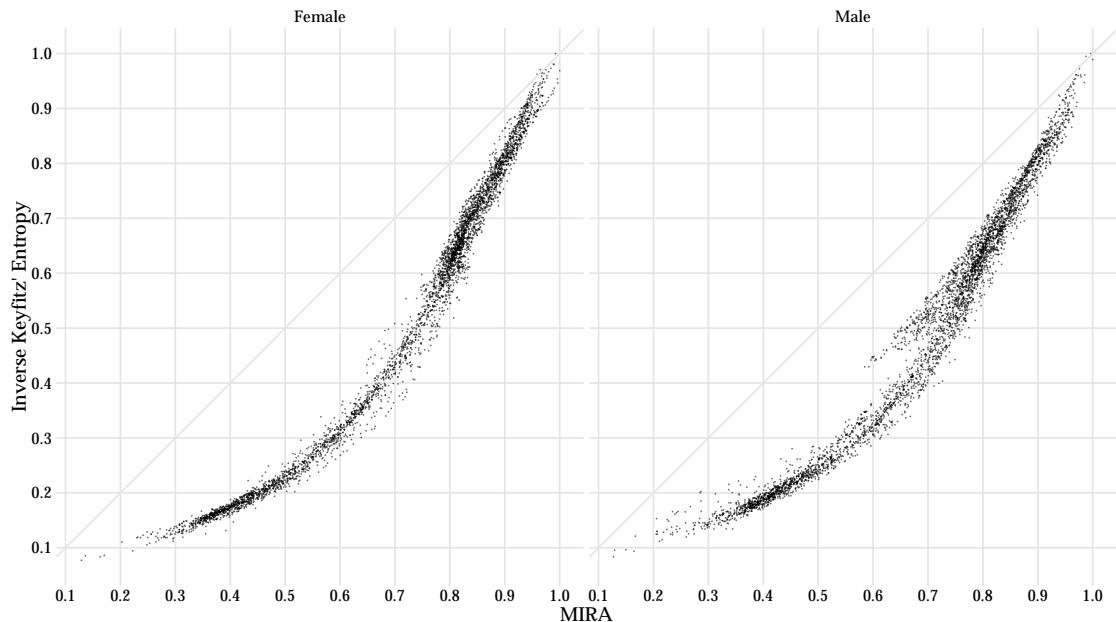


Figure 3: Maximum inner rectangle of l_x against Keyfitz' entropy. Data source: HMD, male and female period lifetables.