Risk Aversion and Wealth


Absolute Risk Aversion

Arrow argues that for a typical individual absolute risk aversion falls as wealth rises: the willingness to take a risk of a given absolute size increases as wealth rises.

Quadratic Utility

According to Arrow, quadratic utility is unsatisfactory because the absolute risk aversion increases as wealth rises.

(However this objection does not apply to the small risks formulation, in which utility is locally quadratic but is not globally quadratic.)

Relative Risk Aversion

It is unclear whether relative risk aversion rises or falls as wealth rises.

Proverbially the rich are conservative “coupon-clippers,” who play it safe by investing in bonds.

On the other hand, many rich people have become wealthy from a high return on risky stockholdings.

Risk Aversion Causes Wealth?

Individuals with low risk aversion will tend to take chances. Some will win, some will lose. Consequently, the rich and the poor should tend to have low risk aversion.

Conversely, individuals with high risk aversion will tend to play it safe. Consequently the middle class will tend to have high risk aversion.

Even if these conjectures are true, however, it does not follow that any particular individual has low risk aversion at low and high wealth and high risk aversion at medium wealth.

Constant Absolute Risk Aversion

\[ u(w) = -e^{-aw}, a > 0. \]
Constant Relative Risk Aversion

\[ u(w) = \begin{cases} 
  \frac{w^{1-\alpha}}{1-\alpha} & \text{for } \alpha \neq 1 \\
  \ln w & \text{for } \alpha = 1.
\end{cases} \]

References