COURSE ECO3054 INSTRUCTOR Luke Boosey

TODAY'S SUBJECT DATE 2/12/17

- Measuring Risk Aversion
  → Approach 2: Certainty Equivalents
  - more useful than risk premium when $E\tilde{z} \neq 0$.
  - How much certain wealth would you need to be indifferent to a lottery F which generates final wealth $w+\tilde{z}$?

→ Definition: Given $u(\cdot)$ and w, a decision-maker's $\boxed{\text{Certainty equivalent}}$ for the prospect that pays $\tilde{z}$ is the amount of final wealth $c_{\tilde{z}}$ that solves

$$Eu(w+\tilde{z}) = u(c_{\tilde{z}})$$

- If Certainty equivalent > initial wealth: accept
- If certainty equivalent < initial wealth: reject

- Expected Final Wealth

$$E[w+\tilde{z}] = E[w] + E[\tilde{z}]$$
$$= w + E[\tilde{z}]$$

- Risk Aversion
  → A natural way to compare risk aversion is to compare the certainty equivalents
  → i.e. 2 decision makers, utility functions $u(\cdot)$ for DM1 and $v(\cdot)$ for DM2.
  → Say that u is more risk-averse than v if for all lotteries p

$$c_p^u \leq c_p^v$$

  → Another approach is to measure risk aversion using the local curvature of the utility function.
  → Definition: For any twice differentiable Bernoulli utility function $u(\cdot)$, the Arrow-Pratt coefficient of Absolute Risk Aversion is $A(x) = [(-u''(x))/(u'(x))]$.