Economics 4905

Financial Fragility and the Macroeconomy

Fall 2018

Problem Set 2

Due Monday, September 24, 2018

1 Economics of Uncertainty

Consider an individual who owns houses at the coast of Florida. There is a probability of 0.1 that a hurricane will hit the coast. Suppose the total wealth of the individual is $100 without hurricane but falls down to $20 after a hurricane. The utility of the individual is $u(x)$ where x is her total wealth. Consider the following utility functions:

a) $u(x) = -\frac{1}{x}$

b) $u(x) = \sqrt{x}$

c) $u(x) = x + 50$

d) $u(x) = x^2$

For each of the utility function, answer the following questions:

i) Is the individual risk averse, risk neutral, or risk loving?

ii) Would the individual prefer a “fair” bet to being unhedged?

iii) How large a premium permits him to buy insurance?