

Quiz #1 (answer key)
ECNS 491
Spring 2018

Name _____

1.) Suppose Rose is a reckless driver who derives the following benefits from driving recklessly:

$$B(R)$$

where B is her benefit function and R is her chosen level of reckless driving.

a.) (5 points) What would be an appropriate assumption about the shape of her benefit function? WHY would we make this assumption?

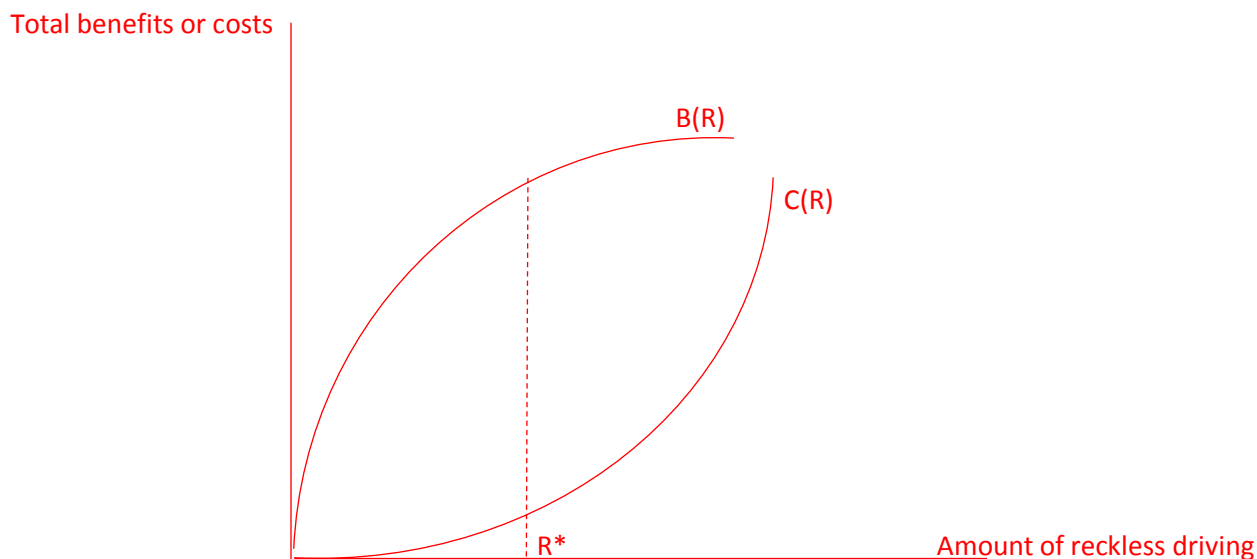
We assume that the benefit function is concave to the origin. That is, benefits are increasing in recklessness at a decreasing rate. Mathematically, this implies the following:

$$B'(R) > 0$$
$$B''(R) < 0$$

b.) (5 points) Suppose the costs that Rose imposes *on society* can be expressed by the following cost function:

$$C(R).$$

These costs include the direct costs she bears due to her own reckless driving and any other external costs she imposes on others who have to share the road with her. Assuming enforcement costs are zero, show graphically the socially optimal amount of reckless driving. (NOTE: Make sure to label your graphs...failure to do so will result in loss of points.)



2.) (5 points) In Ehrlich's (1996) paper on "Crime, Punishment, and the Market for Offenses", he lists difficulties that researchers face when trying to empirically estimate the causal effects of various potential determinants on crime (e.g., the effect of law enforcement on crime). Below, briefly describe one of the challenges he discusses that researchers face. Be brief in your answer....no more than 3 sentences.

Possible answers include a brief description of one of the following issues:

- Model specification
- Measurement error in the available data
- Selecting empirical counterparts of theoretical constructs
- Causal identification
- Separating deterrence from incapacitation