

Quiz 7 (Answer Key)

ECNS 432

Spring 2018

\_\_\_\_\_Name

1.) (10 points) Consider two goods. Good 1 is a consumption good that the consumer owns in the amount  $w$ , whereas good 2 is an environmental good (e.g. side-country skiing in the Bridgers) that the consumer enjoys. The consumer's preferences on  $(x_1, x_2)$  combinations of the two goods are represented by a standard utility function.

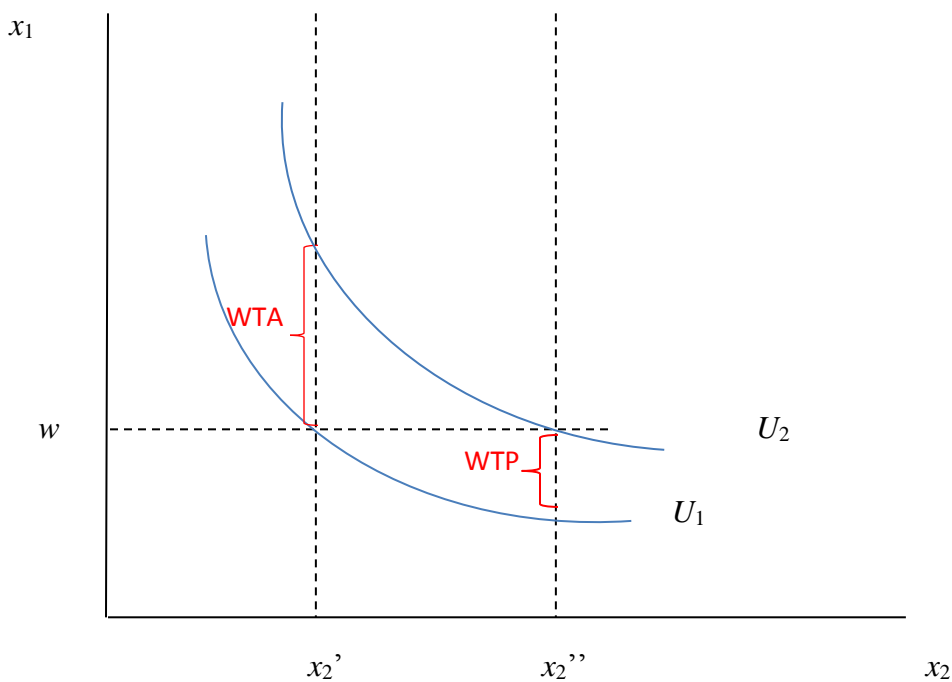
Consider two given levels of the environmental good,  $x_2'$  and  $x_2''$ , with  $x_2'' > x_2' > 0$ . Define the consumer's WTP as the max amount of good 1 that the consumer would be willing to part with in exchange for an *increase* in the amount of good 2 from  $x_2'$  to  $x_2''$ . Define the consumer's WTA as the minimum amount of good 1 that the consumer would be willing to receive (and add to  $w$ ) in exchange for a *decrease* in the amount of good 2 from  $x_2''$  to  $x_2'$ .

Write the equations that implicitly define WTP and WTA.

WTP:  $u(w - \text{WTP}, x_2'') = u(w, x_2')$

WTA:  $u(w, x_2'') = u(w + \text{WTA}, x_2')$

b.) (10 points) Illustrate WTP and WTA in the graph below.



c.) (5 points) Show graphically indifference curves where the difference between WTA and WTP approaches  $\infty$ .

This can easily be illustrated with two L-shaped indifference curves.