

THE PENNSYLVANIA STATE UNIVERSITY  
Department of Economics

Economics 428  
Homework 9  
December 2

Gallant  
Fall 2021

This is an individual assignment in the sense that each individual must submit his or her answers. However, you should feel free to work with another classmate to solve the problems. Ultimately, it is important that each individual understand how to solve these problems because questions similar to these will appear on exams. Turn in via Canvas.

1. A hedonic regression is run on the selling prices  $P$  of houses near an airport that sold within the last five years that results in the equation

$$P = 100000 - 200 \times N + 0.25 \times \text{income}$$

where  $P$  is the most recent selling price in current year dollars,  $N = 1/d^2$ , and  $d$  is the distance from the airport in miles. By current year dollars one means that the selling prices have been adjusted for inflation and the base year is the year of today's date.

- (a) What is the marginal willingness to pay on a per house basis for noise abatement when the benchmark is the noise level at 0.1 mile from the airport.
- (b) What is the annualized marginal willingness to pay assuming an interest rate of 10%.