

Optimal Policy Caution

Submit your answers by email to psets@caseybmuligan.com

Consider a single industry with constant marginal costs and linear demand.

- (1) If the industry is competitive, what would be the deadweight cost from an excise tax, expressed as a function of the excise tax rate t and the slope of the demand curve? Is there any rationale for setting the excise tax rate at zero for this industry?
- (2) You do not know the magnitude of the demand curve's slope but know that the industry is competitive. What is the maximum that the deadweight cost could be (for an excise tax rate of a given magnitude t)?
- (3) If industry has only one supplier, what would be the deadweight cost from an excise tax, expressed as a function of the excise tax rate t and the slope of the demand curve? Is there any rationale for setting the excise tax rate at zero for this industry?
- (4) You do not know the magnitude of the demand curve's slope but know that the industry has only one supplier. What is the maximum that the deadweight cost could be (for an excise tax rate of a given magnitude t)?
- (5) Suppose the tax authority has the discretion to except specific industries from excise taxation, but that it is uncertain as to whether industry supply is competitive or not (e.g., it thinks that there is a 50% chance that it is competitive and a 50% chance that it is monopolized). Is there any rationale for setting the excise tax rate at zero for this industry?
- (6) Continuing from (4), how does uncertainty about the supply situation affect the optimal tax rate according to the Ramsey rule?