ECON 3003 Advanced Public Economics
Fall 2022 – Prof. Dario Tortarolo

Tutorial 3

Incidence of Commodity Taxation

Consider the following model for the market of frozen shrimps in Nottingham. Suppose the aggregate demand for shrimps in Nottingham is given by $Q^D = 9 - P/2$ where P denotes the price and Q denotes the quantity of shrimps in terms of thousands of 1kg bags demanded. The aggregate supply for shrimps in Nottingham is given by $Q^S = P/4$.

(a) Compute the shrimps market equilibrium. What are the equilibrium price and quantities?

(b) Now suppose a tax of $t = \$6$ is imposed on each 1kg bag of shrimps purchased. Compute the market equilibrium with the tax. What are the equilibrium price and quantity?

(c) Compute and graphically depict the deadweight loss due to the tax.

(d) What is the incidence of the tax (i.e., how is the burden split between consumers and producers)? Explain the intuition for the key factors that determine the incidence.

Now suppose that consumers are inattentive to the tax and demand is given by

$$Q^D = 9 - (P + \theta t)/2$$

where $\theta = 2/3$. Again, suppose that a tax of $t = \$6$ is imposed on shrimps.

(e) How can we interpret θ?

(f) What are the new equilibrium price and quantities?

(g) Compute and graphically depict the deadweight loss arising from the tax. How does your answer compare to your answer from part (c)? What's the incidence of the tax now? Explain.

Income Tax Reform

Chancellor Hunt announced in the recent Autumn Statement that the threshold for the top income tax bracket will be lowered from £150,000 to £125,000 starting in April 2023. For simplicity, assume that this is the only feature changing, and consider an individual not entitled to any type of transfers or benefits.

(a) Draw the budget constraint before and after the reform.

(b) Explain how this reform would—in theory—affect the incentives of taxpayers located in the highest bracket (those earning more than £150,000). Does the evidence support your prediction?