Chapter 6: Supply, Demand, and Government Policies

Jamie Hyder
Discussion section 4

September 26, 2023

Outline

Today we will talk about government policies and their unintended consequences:

1. Price controls
2. Social Welfare

Price Controls

Two kinds of price controls:

- Price *Ceiling*: a legal **maximum** on the price at which a good can be sold
- Price *Floor*: a legal **minimum** on the price at which a good can be sold

Price controls can be:

- *Binding*: market forces push price towards equilibrium, but due to the price control it is unable by law to reach equilibrium
- *Non Binding:* market forces push price towards equilibrium, and the price controls do not prevent reaching equilibrium

Price Controls

Let's consider the market for coffee: In equilibrium

- $Q^* = 100$
- $P^* = 3$

Price controls

Let's consider 2 cases of a price *ceiling*:

- $P = 2.5$
- $P = 3.5$

In either case

- What will Q_D and Q_S be?
- Does the ceiling cause a shortage or surplus?
- Is the policy binding?

Price Controls

Let's consider 2 cases of a price *floor*:

- $P = 2.5$
- $P = 3.5$

In either case

- What will Q_D and Q_S be?
- Does the ceiling cause a shortage or surplus?
- Is the policy binding?

Social Welfare

Some key vocabulary:

- Willingness to pay: max price a buyer will pay for a good
- Cost: value of everything a seller gives up to produce a good

We have two notions of welfare surplus:

- **Consumer surplus (CS):** amount a buyer is willing to pay minus the actual price they pay
- **Producer surplus (PS):** amount a seller is paid for a good minus the sellers cost of producing it

What does this look like on a supply and demand graph?

Social Welfare

We can also calculate the total surplus (TS) in society:

$$\begin{aligned} \text{TS} &= (\text{value to buyers - price}) + (\text{price - cost to sellers}) \\ &= \text{value to buyers} - \text{cost to sellers} \end{aligned}$$

We say that a resource allocation is **efficient** *if it maximizes total surplus.*

Social Welfare

When there is a market distortion, the total surplus decreases:

We call this Dead Weight Loss (DWL): the fall in total surplus resulting from a market distortion (like a price control or a tax)

The DWL from a market distortion will depend on the relative elasticities of supply and demand:

- Inelastic supply/demand $\implies$ small DWL
- Elastic supply/demand $\implies$ large DWL

*** The larger the distortion, the larger the DWL ***

DWL Example

Let's consider the *market for labor*...

If we impose a binding **minimum wage law**, what happens to:

- producer surplus
- consumer surplus
- dead weight loss

Now let's consider the *market for NYC apartments*..

If we impose a binding **rent control**, what happens to:

- producer surplus
- consumer surplus
- dead weight loss