4.10: Inefficiency of Price Floors and Price Ceilings

Learning Objectives

- Explain how price floors and price ceilings can be inefficient

We demonstrated that market equilibrium maximizes social surplus; thus, the equilibrium quantity is the most efficient quantity of output for society. The imposition of a price floor or a price ceiling will prevent a market from adjusting to its equilibrium price and quantity, and thus will create an inefficient outcome. But there is an additional twist here. Along with creating inefficiency, price floors and ceilings also transfer some consumer surplus to producers, or some producer surplus to consumers.

In the following interactive graph (Figure 1), we can see this transfer in action:

A link to an interactive elements can be found at the bottom of this page.

Figure 1 (Interactive Graph). Inefficiency of Price Ceilings.

As a result of the transfer of consumer surplus to producers (or producer surplus to consumers), two changes occur. First, an inefficient outcome occurs and the total surplus of society is reduced. The loss in social surplus that occurs when the economy produces at an inefficient quantity is called **deadweight loss**. In a very real sense, it is like money thrown away that benefits no one. In the last slide of the above activity, you can see the deadweight loss shown as the area U + W. When deadweight loss exists, it is possible for both consumer and producer surplus to be higher, in this case because the **price control** is blocking some suppliers and demanders from transactions that would be beneficial to both.

A second change from the price ceiling is that some of the producer surplus is transferred to consumers. After the price ceiling is imposed, the new consumer surplus is T + V, while the new producer surplus is X. In other words, the price ceiling transfers the area of surplus (V) from producers to consumers. Note that the gain to consumers is less than the loss to producers, which is just another way of seeing the deadweight loss.

Let's look at another interactive graph (Figure 2), this time with a price floor instead of a price ceiling:

An interactive or media element has been excluded from this version of the text. You can view it online here: http://pb.libretexts.org/mlum/?p=186

Figure 2 (Interactive Graph). Inefficiency of Price Floors.

The net effect of the price floor in the above activity is that the price floor causes the area H to be transferred from consumer to producer surplus, but also causes a deadweight loss of J + K.

This analysis shows that a price ceiling, like a law establishing rent controls, will transfer some producer surplus to consumers—which helps to explain why consumers often favor them. Conversely, a price floor like a guarantee that farmers will receive a certain price for their crops will transfer some consumer surplus to producers, which explains why producers often favor them. However, both price floors and price ceilings block some transactions that buyers and sellers would have been willing to make, and creates deadweight loss. Removing such barriers, so that prices and quantities can adjust to their equilibrium level, will increase the economy's social surplus.

Summary

Consumer surplus is the gap between the price that consumers are willing to pay, based on their preferences, and the market equilibrium price. Producer surplus is the gap between the price for which producers are willing to sell a product, based on their costs, and the market equilibrium price. Social surplus is the sum of consumer surplus and producer surplus. Social surplus is greater at the equilibrium quantity and price than it will be at any other quantity and price. Deadweight loss is loss in social surplus that occurs when the economy produces at an inefficient quantity.

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Learning Objectives

[glossary-page][glossary-term]deadweight loss: [/glossary-term]
[glossary-definition]the loss of economic value (i.e. social surplus) that occurs when a market operates at an inefficient quantity of output[/glossary-definition][/glossary-page]

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