Price Controls

What is a price ceiling ?

A price ceiling is a regulated maximum price in a market – sellers cannot legally offer the product for sale at a price higher than the ceiling. To be effective, a ceiling must be set below the normal free market equilibrium price.

Why ?
Prevent producers to raise the price above the price ceiling (in periods of shortage / lower supply).

By doing this, the government intends to protect the consumers in markets where the product is a necessity and/ or a merit good.

Examples of price ceilings

- controls on agricultural and food products during periods of shortage guarantee low-cost food to low-income households.

- rented accommodation to ensure affordable accommodation to low-income households

By doing this, the government intends to protect the consumers in markets where the product is a necessity and/ or a merit good.

A merit good is a good that would be under provided if the market were allowed to operate freely. Examples: education, access to cultural activities or museums…

Illustrating a price ceiling

Initially, in a free competitive market, market equilibrium is achieved at price = P1 and quantity supplied = Q1 and quantity demanded = Q1. The government sets the maximum price to PC – the price ceiling

Quantity supplied is lower than the quantity the suppliers would supply at Pe.

- demand exceeds the supply.
- the price ceiling does not allow the market to clear; it creates a situation of disequilibrium, where there is a shortage (excess demand).

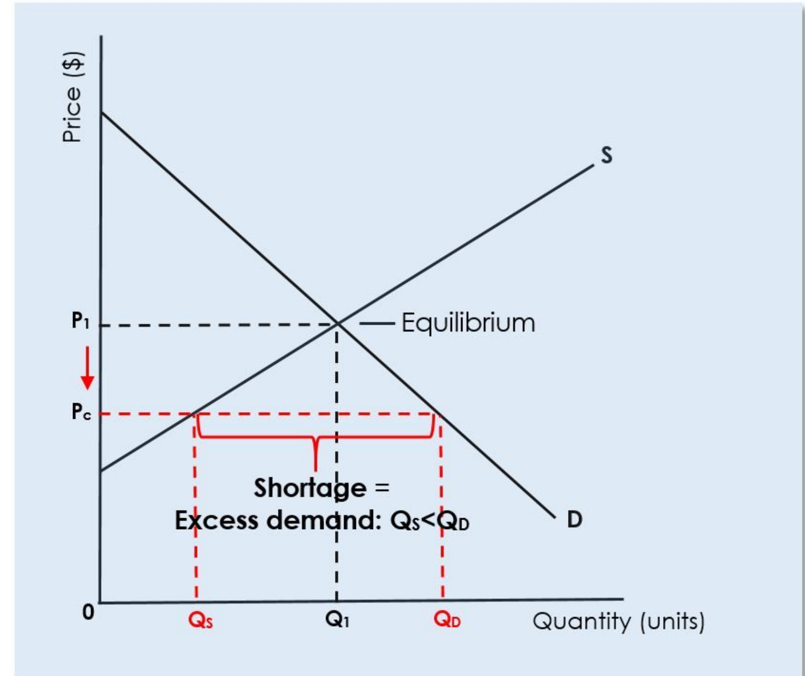
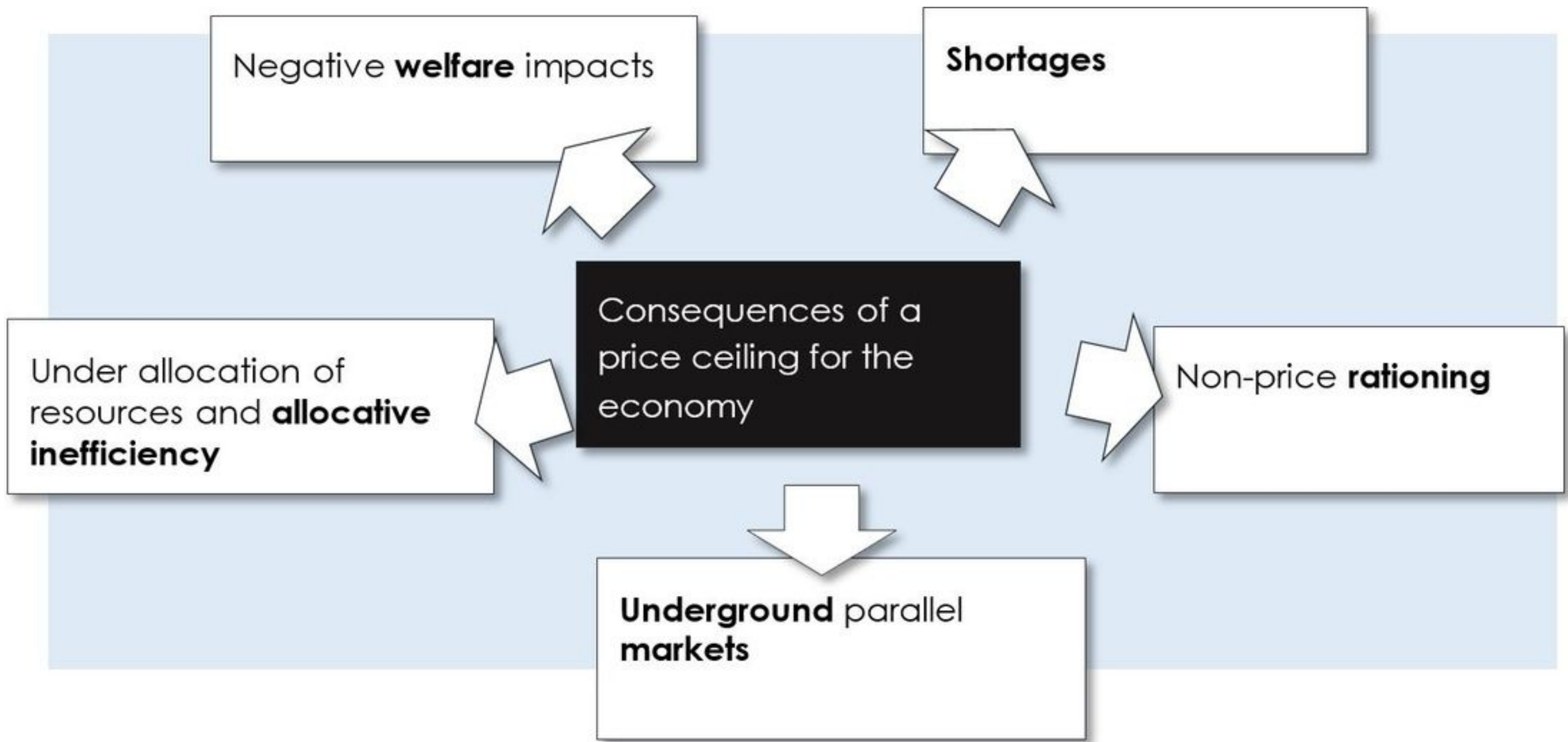


Figure 1: A price ceiling (maximum price)


Negative welfare impacts
Shortages
Consequences of a price ceiling for the economy
Under allocation of resources and allocative inefficiency
Non-price rationing
Underground parallel markets

Shortages

At PC, there is a situation now where QS < QD and there is a shortage of the good or service in the market. A shortage is a situation of excess demand where relatively low prices in the market means that the quantity demanded is greater than the quantity supplied, as firms find it relatively less profitable to supply the market at this price The shortage is equal to QD – QS.

Black markets

Prolonged shortages caused by price ceilings can create underground parallel markets for that good. There is an underground network of producers that will sell consumers as much of a controlled good as they want, but at a price higher than the price ceiling. These markets are generally illegal. Even when governments have the best intentions when imposing a price ceiling, it is often those with the highest incomes and wealth, or the most well connected that will obtain the good anyway.

Non-price rationing

If a ceiling is to be imposed for a long period of time, a government may need to ration the good to ensure availability for the greatest number of consumers. One way the government may ration the good is to issue a ticket or a coupon to consumers. This is generally considered a fair way to minimise the impact of a shortage caused by a ceiling, but is generally reserved for times of war or severe economic distress. Other methods of non-price rationing include:

- Queuing – waiting in line on a first-come-first served basis and the good is distributed until it runs out.
- Favouritism/nepotism – sellers can sell

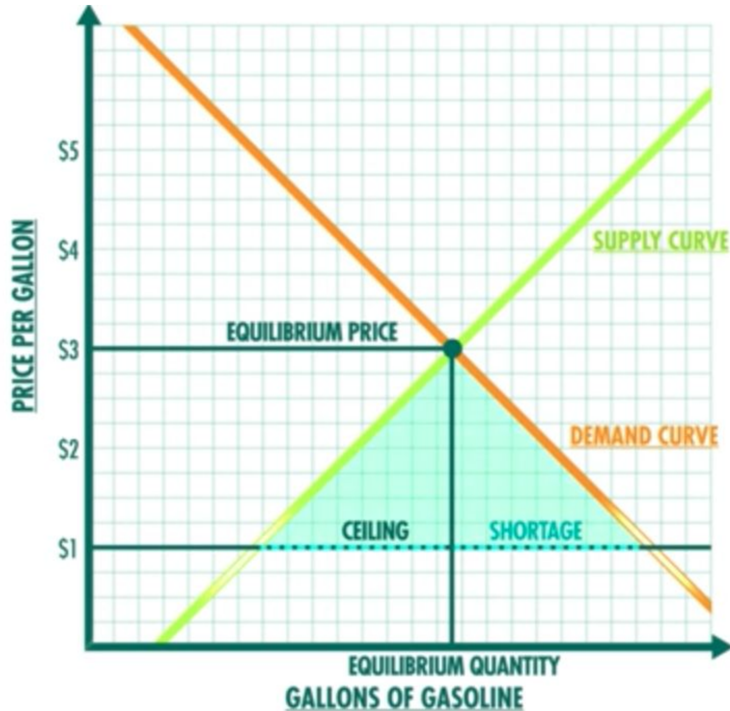
Under allocation of resources and allocative inefficiency

Allocative efficiency is both production efficiency and providing that combination of goods and service that consumers demand. Allocative inefficiency is a situation in which, with the given state of technology, it is possible to generate a larger share of welfare-total from the available resources.

As a result of the price ceiling smaller quantity is supplied. There is underproduction relative to the demand.

Thus, society is worse off.

DWL / Welfare loss as a result of a price ceiling



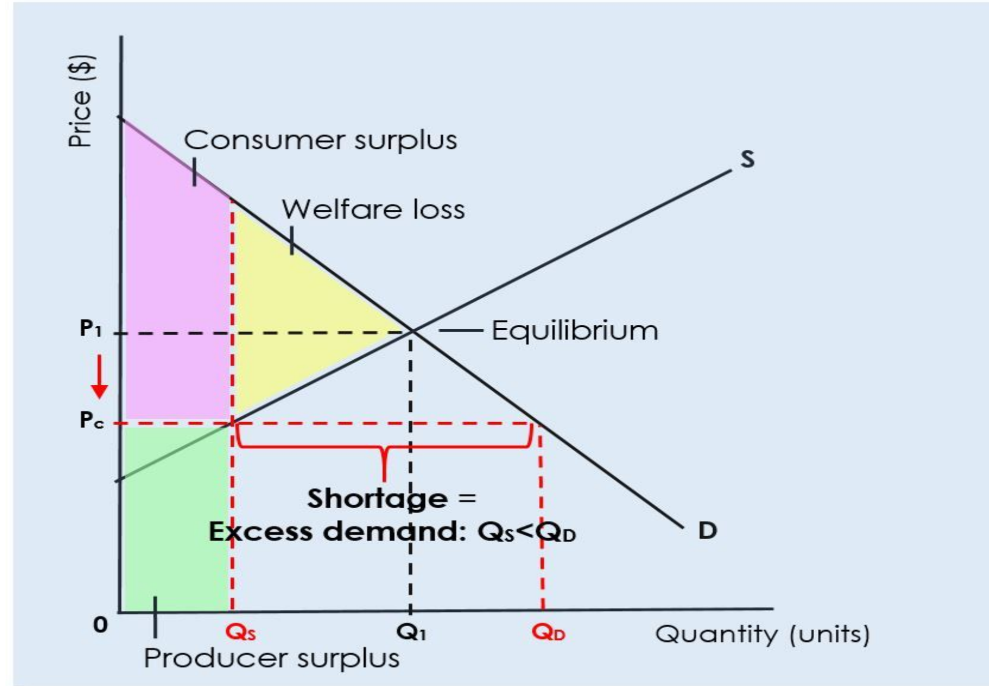


Figure 2: The loss of welfare arising from a price ceiling (maximum price)

Resources are not being utilized efficiently from society's point of view (market equilibrium point) hence a deadweight loss.

Negative welfare impacts

Deadweight / welfare loss is the loss of welfare, utility or benefit to those participating in the market as a result of government intervention or externalities. When a price ceiling is imposed on the competitive free market too few resources are allocated to the production of the good and a shortage results (Q1 – QS)

The producer surplus is reduced

- they are supplying less of the good and receiving a lower price for it

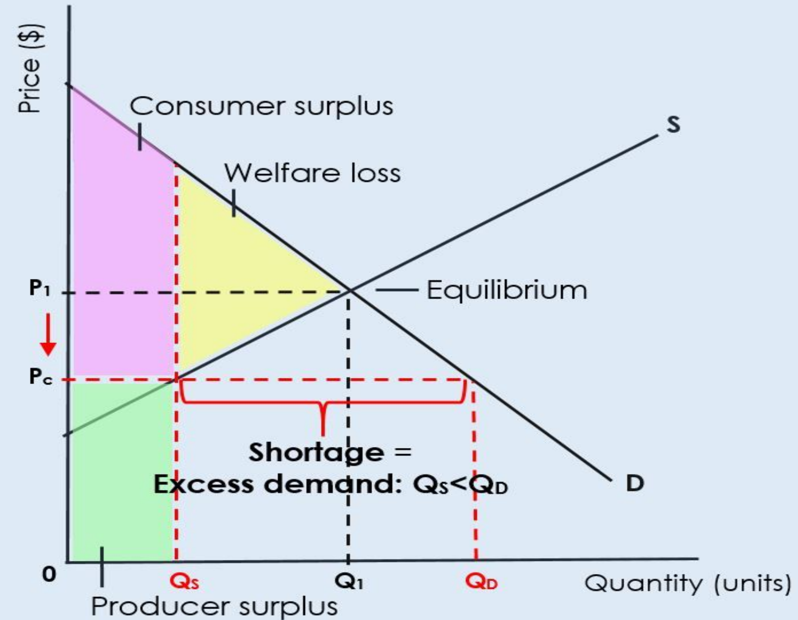


Figure 2: The loss of welfare arising from a price ceiling (maximum price)

The consumer surplus is reduced

- The quantity demanded is greater than the quantity supplied and consumption in the market regulated with a price ceiling results in quantity demanded falling from Q1 to QD. A loss of consumer welfare results.

Consumers

Producers

Stakeholders affected by the imposition of a price ceiling

Workers

The government

What is a price floor?

Price floors – governments setting a minimum price: A price floor is a government-imposed price control or limit on the minimum price that can be charged for a product. A price floor is the lowest legal price a good or service can be sold at. Price floors are used by the government to prevent prices from being

A price floor is where a government will set a legal minimum price that can be charged for the good or service. Initially, in a free competitive market, market equilibrium is achieved at price = P1 and quantity supplied = Q1 and quantity demanded = Q1. The government sets the minimum price to PF – the price floor –to above the equilibrium market price and firms cannot charge below this in the market.

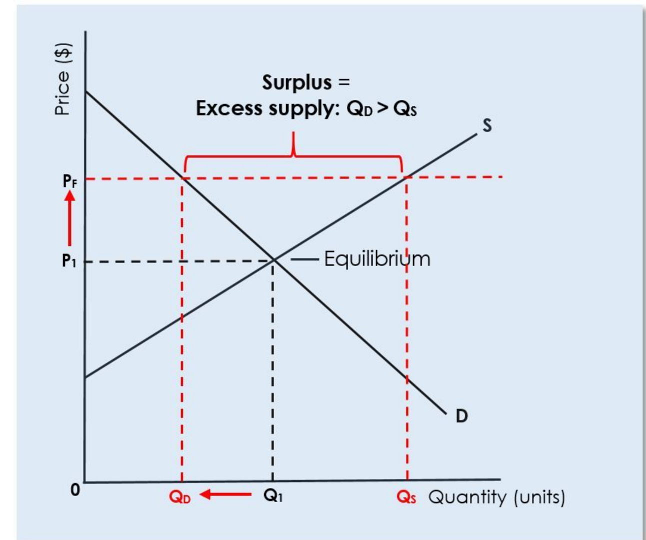


Figure 6: A price floor (minimum price)

Why do governments set price floors?

To protect sellers (farmers for example) and raise their income for products or services that the government considers essential (such as agricultural products which are subject to large price fluctuations, or face foreign competition).

To protect workers by setting a minimum wage. By doing this, the government intends to ensure that workers have a decent level of income.

Diagram of a price floor

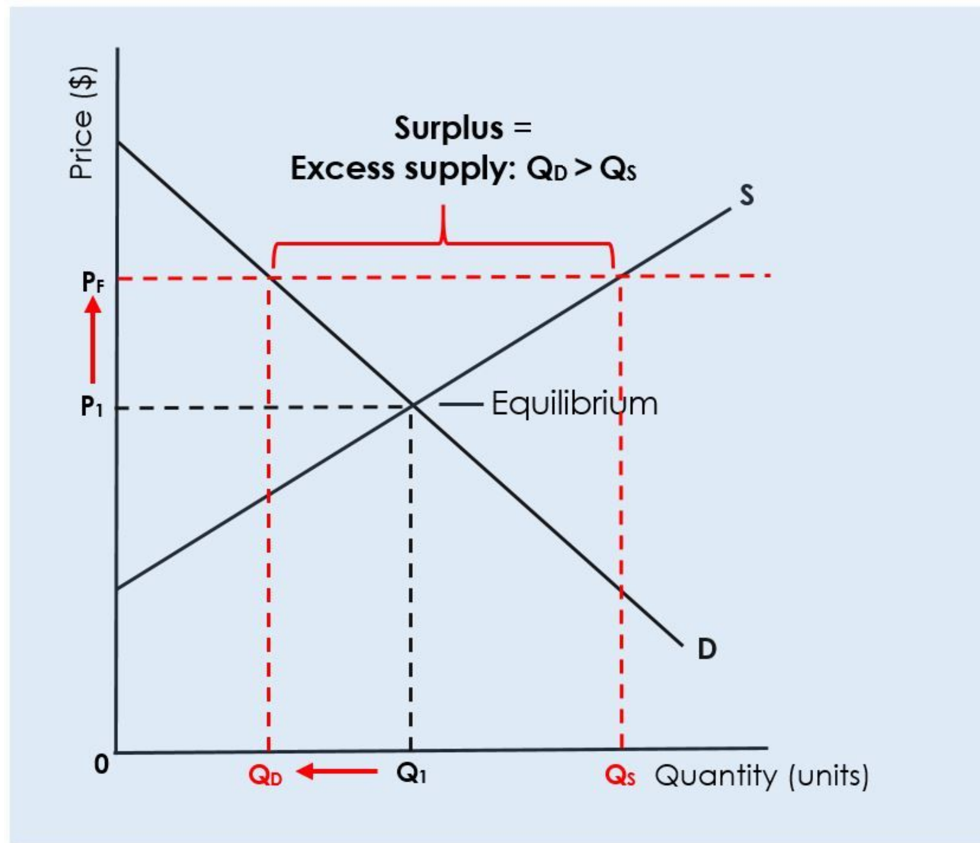


Figure 6: A price floor (minimum price)

What can a government do to solve the problem of having a surplus?

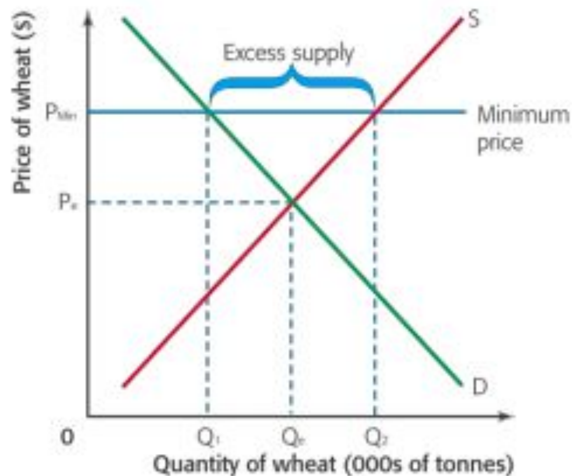


Figure 5.9 A minimum price in the market for wheat

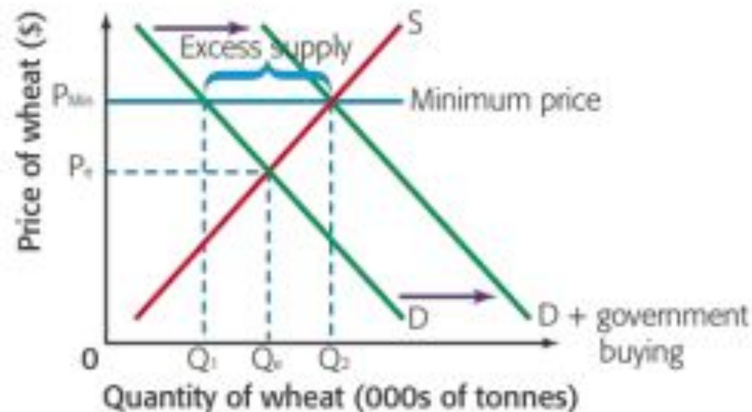


Figure 5.10 Government action to solve the problem of excess supply

The excess supply causes problems. The government would normally eliminate excess supply by buying up the surplus products, at the minimum price, thus shifting the demand curve to the right and creating a new equilibrium at Pmin.

What can a government do to solve the problem of having a surplus?

There are two other ways aside from buying up the surplus:

1. Implementing quotas

This would restrict supply so it would not exceed Q1. This would keep the price at Pmin, but would mean that there would be a significant deadweight loss / welfare loss and also reduced export opportunities.

2. Advertising

The government could embark on a huge advertising campaign to try and increase demand for the product

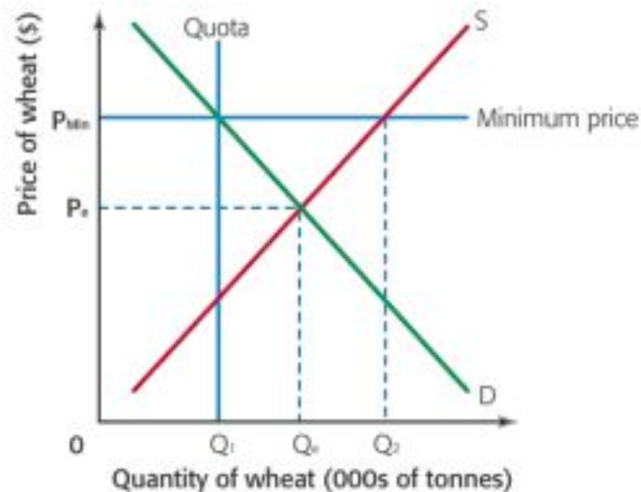
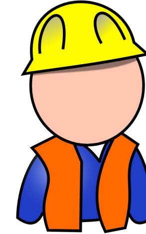


Figure 5.11 A quota to maintain a minimum price

What are the consequences for stakeholders?

Consumers?



Workers?

Producers?

Government?

IB LEARNER OBJECTIVE: Discuss the consequences of imposing a price ceiling on the stakeholders in a market, including consumers, producers and the government.

Consumers: Consumers are worse off because they are consuming less of the good and paying more for it. The price of the good increases from P1 to PF and there is a decrease in quantity demanded at the higher price (Q1 to QD).

The loss in consumer surplus (CS1 to CSF) is shown in the diagram on the right.

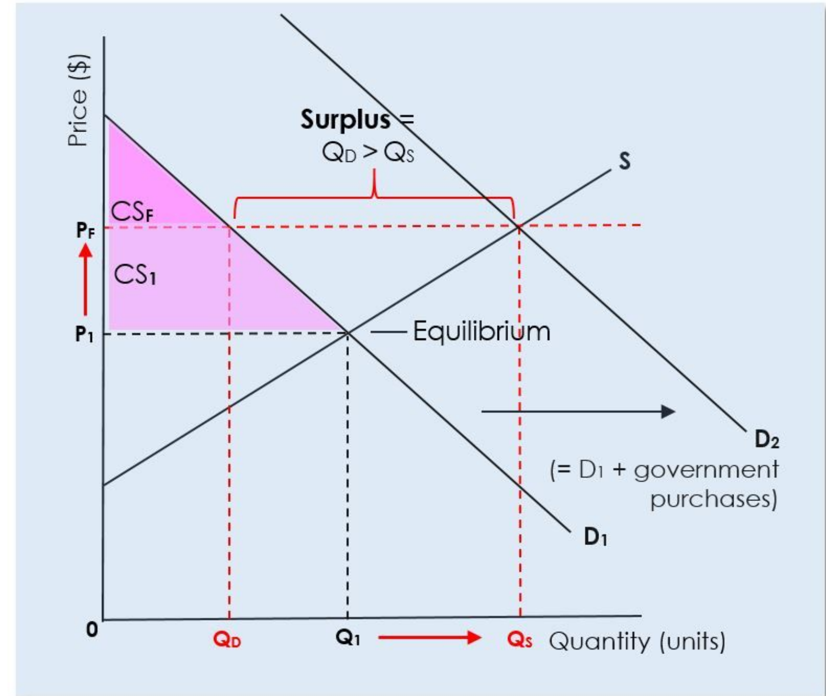


Figure 12: Price floor and change in consumer surplus

Firms: Producers are better off because their output of the good has increased and they are receiving a higher price for each unit of output produced and sold. The increase in price and the increase in sales leads to an increase in producer's total revenues and improved profitability. The price the firm receives increases from P1 to PF and there is an increase in quantity supplied at the higher price (Q1 to QS).

The gain in producer surplus (PS1 to PSF) is shown on the right

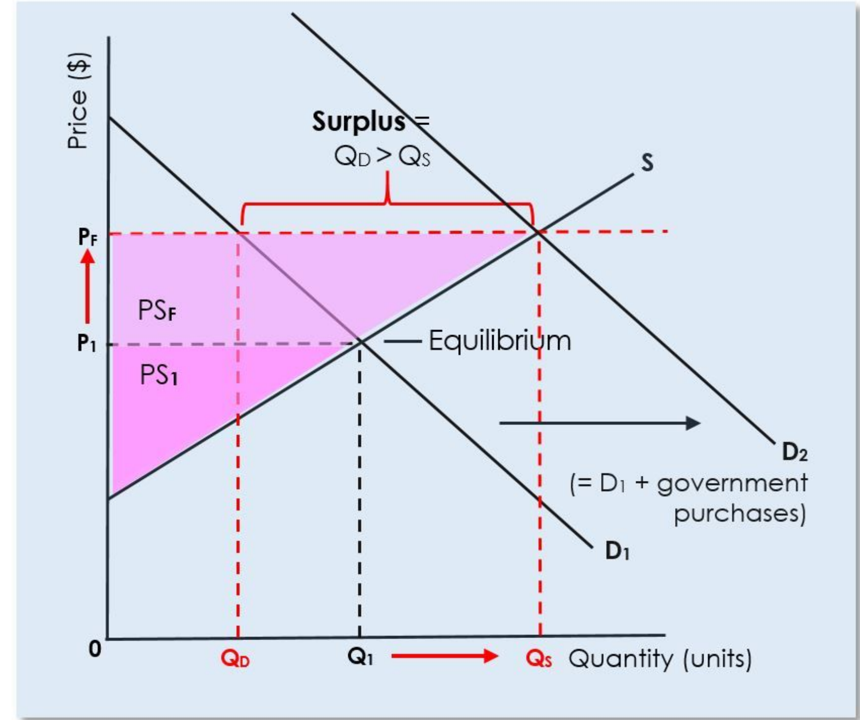


Figure 13: Price floor and change in producer surplus

The government: The government is worse off because it has to pay for the surplus output that producers are supplying. Which, all else being equal, becomes a burden on its budget. Either it will have a reduced surplus, increased borrowing and/or reduced expenditure in other areas (e.g., health and education) or else it will have to raise additional tax revenue.

The increase in government expenditure resulting from the price floor is shown on the right.

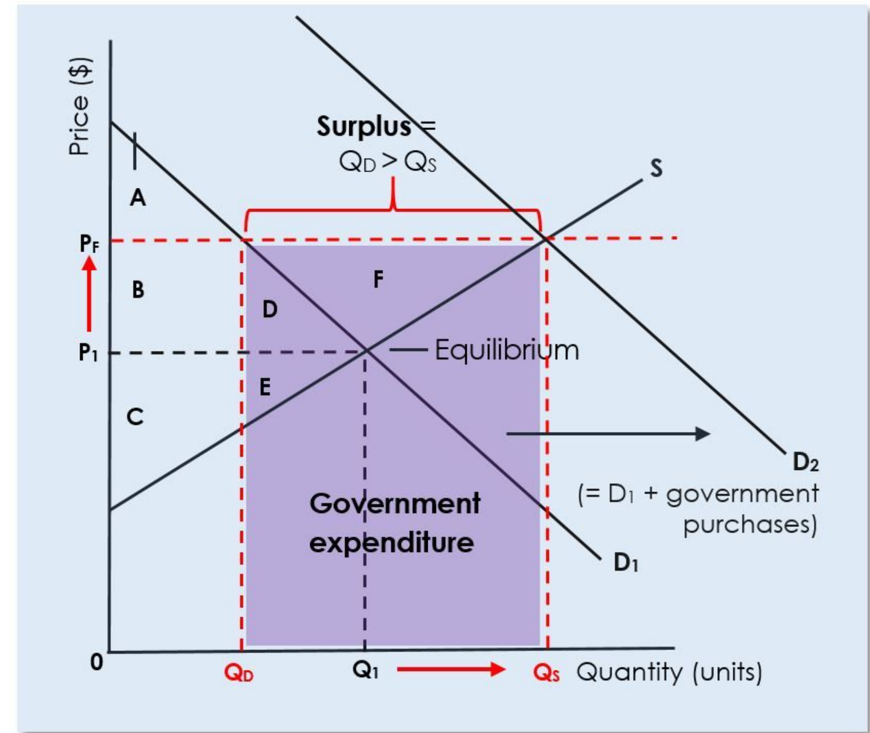


Figure 10: Price floor and government expenditure to purchase surplus