

# Microeconomics with Ethics

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## Chapter 19 Government Policies: Price Ceilings/Price Gouging

Sometimes the price of a product sold in a free market is viewed as too high by some observers. This can happen when an economy is experiencing an inflationary episode, in which case all goods and service prices are rising on average. Perhaps the product is a necessity like rice, or bread, and possibly poorer citizens cannot afford to purchase an adequate amount at prevailing prices. This is especially a problem when the prices of necessity goods are rising much faster than workers' wages.

Alternatively, some people may feel that the prices of some products are kept too high by greedy merchants eager to profit off the backs of less fortunate citizens. For example, a concern about income distribution sometimes arises if city landlords seem to be getting wealthy by charging exorbitantly high rents for apartments and houses. When the poor are squeezed, while someone else seems to be profiting heartily, then prices are considered by some to be too high.

Finally, some product prices may occasionally spike upwards when there is a sudden shortage, as can occur in an emergency situation. For example, an earthquake or hurricane can temporarily upset distribution systems leading to severe shortages of critical commodities like water, refrigeration, building materials, and food. The free market effect of sudden shortages is an often-sizeable increase in the price. However, most observers would quickly classify this as price gouging and believe that greedy merchants charging higher prices are taking advantage of people who are in desperate need.

In all of these instances, governments are sometimes called upon to intervene in a way that “corrects” the market price, which in this case means keeping the price lower than it otherwise would be. One intervention governments can use is a price ceiling. A *price ceiling* is a government regulation stipulating that the price of a particular product cannot be sold for any price above the announced value. Price ceilings have often been used to keep food prices low, to reduce rents in major cities, and to control against price gouging in emergency situations.

In the following analysis we will consider the effects of a price ceiling in the market for a particular commodity, relative to the free market outcome with no government regulation. We will use supply and demand curves, which means we are assuming that the market is perfectly competitive. In the formal analysis, we consider only the static, or one period, effects of a price ceiling. However, once we understand the effects in this context, we can consider the broader long term impacts of the policy as well.

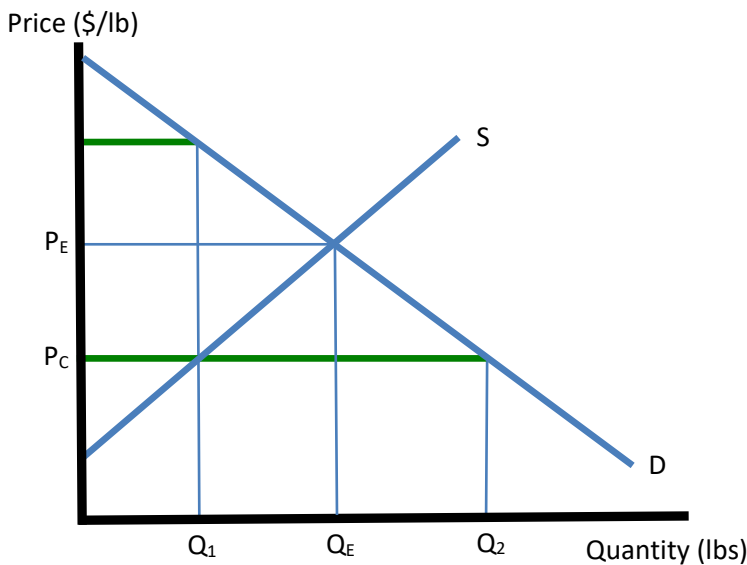
## 19.1 Price and Quantity Effects of a Price Ceiling

### Learning Objectives

1. Learn the objectives and motivations for using a government price ceiling.
2. Identify particular markets where price ceilings have been used.
3. Learn the effects of a price ceiling on market supply and demand .

Consider a market for a particular product, let us say rice, depicted in Figure 19.1. Let  $D$  represent the market demand for rice measured in pounds, at various prices for rice measured in dollars per pound. The aggregate supply curve for the many producers of rice is given by  $S$ . In a free market the price would settle at the market equilibrium price  $P_E$ . At the price  $P_E$  supply and demand would be equal to each other at quantity  $Q_E$ .

Figure 19.1 A Market with a Price Ceiling



Suppose the government sets a price ceiling,  $P_C$ , stipulating the highest price the product could be legally sold. Suppose also that punishments for non-compliance are sufficiently high that all merchants abide by the price ceiling.

Initially, suppose the price ceiling were set at a value that is greater than  $P_E$ . In other words, suppose  $P_C > P_E$  (not pictured). In this instance, the free market equilibrium price  $P_E$  is perfectly legal because it is lower than the legal maximum price  $P_C$ . In this case, the free market price will prevail and the implementation of the price ceiling will not change the outcome in the marketplace. A price ceiling set higher than the equilibrium price is called *non-binding*, because it will not affect the market outcome.

Next let's consider a price ceiling set less than the free market equilibrium price. In this case, the free market equilibrium price is illegal and the ceiling will affect the outcome in the market. Hence, a price ceiling set lower than the market price (i.e.,  $P_C < P_E$ ) is called a *binding price ceiling*.

Figure 19.1 depicts the effects of a binding price ceiling. At the lower legal price, producers will be discouraged from producing as much because it will be less profitable. They will supply only  $Q_1$  rather than  $Q_E$ . This outcome is an unexpected consequence of a price ceiling and is counterproductive. In a free market, one other way to solve the problem of high prices is to stimulate greater supply of the product. If market supply could be shifted outward, then the free market price would fall and the equilibrium quantity traded would increase. A price ceiling has the opposite effect on supply though. By forcing a lower price, producers' profit-seeking response would be to produce less, not more, of the product. Secondly, due to the lower price, consumer demand will be higher than  $Q_E$  at  $Q_2$ . Unfortunately though, consumers will not be able to purchase  $Q_2$  because suppliers only bring  $Q_1$  to the market. Thus, we say that there is excess demand in the amount  $(Q_2 - Q_1)$  for the product at the price  $P_C$ .

### **Administration of a Price Ceiling**

Suppose that the government set price, 500 pounds of rice will be available for sale in the market but consumers will demand 1000 pounds of rice. How will it be determined which of the consumers are able to purchase the rice and which cannot? Since usually products are supplied on a first-come first-served basis, and because consumers know that, they might all arrive at the market as soon as the product arrives or when the market first opens. In this case, excess demand in a market results in the formation of lines, or queues. Those consumers in the early part of the line will be able to purchase all of the rice they desire, but consumers at the end of the line will not get any rice. Thus, the first-come, first-served allocation method causes lines to form and results in an unequal distribution of the product across consumers.

There are some alternative allocation schemes that could be used to assure a more equitable distribution of the rice. One method is to issue quota tickets to families and stipulate that to purchase rice, one must present the merchant with a quota ticket for each unit purchased. If 500 pounds of rice were available then 500 quota tickets worth one pound each (or 1000 tickets worth a  $\frac{1}{2}$  pound each) could be distributed equally to all families. Under this system, a line is unlikely to form since each family is guaranteed a fixed amount of rice.

Such a system has administrative costs to implement though. A government agency would need to be set up to print and distribute the quota tickets, taking precautions to prevent copies or forgeries from entering the system. They may need to collect information about eligible recipients to know how many people are in each family. They would need to determine how often the tickets would be issued and whether the tickets expire after a certain time. They would also need to initiate penalties for people who fail to abide by the rules or who are caught forging the tickets. Many employees would have to be hired and paid to assure that the system operates properly and these would require additional tax collections from the citizens to pay these workers.

Although we will typically ignore these administrative costs in our evaluations (to keep the model simple), it is important to remember that these are always lurking in the background. Usually legislators will impose regulations with broad guidelines of what they wish to achieve and leave the details to be determined by the designated government agency. If a price ceiling is implemented on rice, for example, it might be the Department of Agriculture that must administer the regulation. The processes and procedures they establish will always have to contend with the problems that will arise from attempts to cheat the system. Good administration might eliminate most of the cheating at relatively low cost, but a poorly administered program, could create more inequities than it solves at a cost that is higher than the net benefits of the policy itself.

In general, proponents of government regulations are more likely to ignore these administrative costs, or assume they can be cheaply and reliably implemented by the agencies. In contrast, opponents of government regulations are more doubtful about the ability of agencies to administer policies effectively and may also believe the administrative process may enable corrupt officials to receive personal benefits from the way the system is operated.

### Key Takeaways

1. Price ceilings are government set maximum prices intended to help make important items more affordable for consumers
2. Price ceilings have been applied to important food items, rental housing, and critical items in emergency situations.
3. In a perfectly competitive market, a price ceiling reduces supply, raises demand and creates excess demand requiring allocation either via queuing or via an administered quota system.

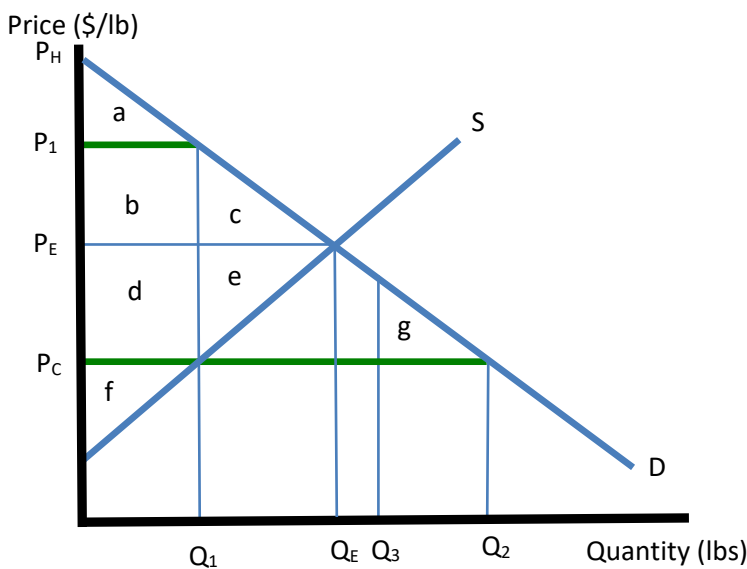
## 19.2 Welfare Effects of a Price Ceiling

### Learning Objective

1. Identify who gains, who loses and the overall welfare impacts due to a price ceiling.

We can use Figure 19.2 to analyze the welfare impacts of a price ceiling in the market for rice. First consider market welfare in a free market equilibrium with price  $P_E$  and quantity  $Q_E$ .

Figure 19.2 Welfare Effects of a Price Ceiling



Total consumer surplus is given by the area between the demand curve, the price line  $P_E$  and the vertical axis. It is the area a, b and c. Producer surplus is the area between the supply curve the price line  $P_E$  and the vertical axis. It is area d, e and f. Market welfare is summarized in

Table 19.1.

Table 19.1
Welfare Levels in a Free Market Equilibrium
$CS = a + b + c$
$PS = d + e + f$
$MW_E = a + b + c + d + e + f$

Next consider welfare in the market with the binding price ceiling set at  $P_C$ . Suppose the product is allocated on a first-come first-served basis. Total consumer surplus is now difficult to identify because we do not know which consumers were the ones lucky enough to purchase the product at the reduced price. So we will consider several scenarios.

To make the problem easier suppose each consumer in the market purchases only one pound. In this way, each pound corresponds to a unique consumer. The demand curve arranges the consumers left to right in the order of willingness to pay. For example, the first consumer on the demand curve would be willing to pay  $P_H$  for the good. (Stated differently, if the price in the market were  $P_H$ , one person would be willing to purchase 1 pound of rice.) The person who purchases the  $Q_1$ th unit would be willing to pay  $P_1$  for the good. The person who purchases the  $Q_E$ th unit would be willing to pay  $P_E$ , etc.

Next we'll consider two extreme outcomes concerning who purchases the limited quantity of rice  $Q_1$  when the price ceiling is in place.

First, suppose that all the people at the front of the line just happen to be those who have the greatest desire for the good. These are the individuals located between 0 and  $Q_1$  on the demand curve and they have a willingness to pay between  $P_H$  and  $P_1$ . However, with the price ceiling in place these consumers would only pay  $P_C$  for each pound of rice. That means that the consumer surplus accruing to these consumers is the area between the demand curve and the price  $P_C$  up to the quantity supplied  $Q_1$  and is given by the sum of areas a, b and d. This area represents the maximum consumer surplus that can arise with a price ceiling because only the consumers who get the most value from the rice (i.e., those with the highest willingness to pay) are the ones purchasing it.

For producers, the change in producer surplus is easy to calculate since producers respond to the price ceiling by reducing the amount of the product sold in the market. Producer surplus is given by the area between the price ceiling line  $P_C$  and the supply curve, or area f.

In this scenario with maximum consumer surplus, market welfare with the price ceiling in place is listed in the left column of Table 19.2 while the change relative to a free market outcome is given on the right.

Table 19.2	
Welfare Effects of a Price Ceiling (maximum CS)	
Surplus Levels	Surplus Changes
CS = a + b + d	d - c
PS = f	- d - e
MW <sub>E</sub> = a + b + d + f	- c - e

Notice that the change in consumer surplus is ambiguous in total since there is one positive effect and one negative effect. The positive effect (area d) arises because those consumers who are able to purchase the product pay the lower price  $P_C$ . These consumers are all better off with the price ceiling. The losses to consumers (area c) represents losses to those consumers who want to buy the product but go away empty-handed. These consumers would have been able to purchase the product and receive the surplus value c in the free market outcome.

The change in producer surplus is unambiguously negative. Producers sell less at a lower price and lose profit (areas d and e). Finally the change in market welfare is also unambiguously negative. Economists would say there is a loss of economic efficiency with a price ceiling because it results in a net overall welfare loss. The areas corresponding to the net losses, c and e, are called deadweight losses by economists. They represent a loss of both producer and consumer surplus because the price ceiling causes the elimination of trades between buyers and sellers in the amount  $(Q_E - Q_1)$ .

Next, consider an alternative case in which the consumers who value the product the least are the ones at the front of the line who are able to purchase the good. These are the individuals located between  $Q_3$  and  $Q_2$  on the demand curve.  $Q_3$  is chosen so that  $Q_2 - Q_3 = Q_1$ . These consumers have a willingness to pay between  $P_3$  (the price corresponding to  $Q_3$ ; not labeled) and  $P_C$ . As before, with the price ceiling in place, these lucky consumers would only pay  $P_C$  for each pound of rice. That means that the consumer surplus accruing to these consumers is the area between the demand curve in the range  $Q_3$  to  $Q_2$  and the price  $P_C$ . This corresponds to area g and is the minimum consumer surplus that can arise in the event that only the consumers who get the lowest use value from the rice are the ones able to purchase it. (Note also, that if the demand curve is linear then area g = area a).

Producer surplus, as before, is given by the area between the price ceiling line  $P_C$  and the supply curve, or area f.

In this scenario market welfare with the price ceiling in place is listed in the left column of Table 19.3 while the change relative to a free market outcome is given on the right.

Table 19.3	
Welfare Effects of a Price Ceiling (minimum)	
Surplus Levels	Surplus Changes
CS = g (or a)	$g - a - b - c$ (or $-b - c$ )
PS = f	$-d - e$
$MW_E = g + f$ (or $a + f$ )	$g - a - b - c - d - e$ (or $-b - c - d - e$ )

Notice that the change in consumer surplus is not ambiguous because there are only negative effects ( $-b - c$ ). These losses to consumers are the net effect across two groups. First there are the consumers who would have purchased  $Q_E$  of the product in the free market equilibrium. These consumers are shut out of the market in this scenario and lose a total of (a, b, and c). However the consumer who least value the product are those who would only purchase it if the price falls to  $P_C$ . They gain area  $g = a$  and so the total effect is  $a - (a + b + c) = (-b - c)$ .

Note that in this worst of all outcomes, market welfare declines even more (denoted,  $-b - c - d - e$  in Table 19.3 with linear demand) than in the best of all outcomes (area  $-c - e$ , in Table 19.2) That is because in the worst of all outcomes the consumers who want or need the product the least are the ones who get it while those who value it the most go away with nothing.

In a more realistic situation with first-come first-served line formation to allocate the limited quantity of goods, we should expect an outcome somewhere in the middle of the two extreme cases shown above. People would show up in line somewhat randomly relative to their willingness to pay. Some who get high surplus would purchase the good, but some with low surplus would also be lucky enough to purchase the good. This means that the market welfare effect would lie somewhere between the two extremes shown here. However since both market welfare effects are negative anyway, a more realistic result would surely be negative nevertheless.

Suppose next that the government decides to issue quota tickets to allocate the product more fairly. In this case, the outcome might be something like the following.

Assume some simple numbers for the sake of a clearer description. Suppose at the price ceiling price,  $P_C$ , 1000 pounds of rice are demanded by 1000 people but only 500 pounds are supplied. If the government issues quota tickets, then it should issue one ticket worth a half pound each to the 1000 consumers. In this way everyone gets to purchase rice at the lower price but everyone receives a quantity that is less than they desire. The consumer surplus in this case could be estimated as half the total surplus between 0 and  $Q_2$  since each consumer would get only half as much surplus as they would get, had they been able to purchase the desired amount. Also since all consumers get to purchase a fraction of their total desired amount, consumers who value the product most highly will receive some of the good as will those who value the product less highly.

As before though, this outcome must have a negative effect on market welfare. Its value would be somewhere between the minimum and maximum market welfare changes shown above. Of course, total costs would also be somewhat higher too if we included the administrative costs of operating the quota system. These costs have not been included explicitly in the market welfare

analysis but should be included for a complete accounting of costs and benefits.

### **Key Takeaways**

1. In a perfectly competitive market, a price ceiling will benefit consumers who are able to purchase the product, hurt consumers to the extent they are unable to purchase the quantity they desire, and will hurt producers of the product.
2. A price ceiling will reduce market efficiency, or market welfare, because the losses to firms and the losing consumers is larger than the gains to those consumers who benefit.

## **19.3 Price Gouging Laws**

### **Learning Objective**

1. Identify the pros and cons of price gouging laws relative to the free market outcome.

A good practical application of price ceilings occurs with US state laws against price gouging. Price gouging, as generally defined, occurs when a merchant sells necessities like food, gasoline, water, or equipment at an excessive, or unconscionable, price in an emergency situation. Excessive, or unconscionable, prices may mean any price above the market average price that prevailed shortly before the emergency occurred. Although the laws rarely explicitly state it, excessive price increases are often suggested to be anything more than 10 - 25% of the usual price of the product. The laws also generally allow for price increases if the cost of supplying the good has risen because of the emergency. But any excessive price increase above that could still be labeled price gouging. Emergency situations include the events leading up to and after hurricanes, earthquakes, tsunamis, and manmade disasters such as the terrorist attacks on September 11<sup>th</sup>, 2001 in the US.

As the name gouging suggests, the law is designed to prevent merchants from making excessive profits off the back of consumers at a time when the consumer is most vulnerable. Almost everyone accepts that greedy profiteering in these circumstances is wrong. Indeed, many observers may even characterize price gouging as immoral. Thus, there is widespread popular support for the enforcement of price gouging laws. There are also widespread misunderstandings of the costs and benefits of price gouging laws. Let's explore why.

First, we'll look carefully and dispassionately at the effects of price gouging laws by considering the outcomes with and without the laws in place. Afterwards we'll discuss the ethical aspects of the laws in light of these findings.

### **What Happens in an Emergency?**

Let's consider the expected responses to an impending disaster, the approach of a hurricane along the Atlantic coast in the Eastern US. Several days before the hurricane arrives, the weather service will issue regular updates that include predictions about the most likely path of the hurricane and the locations that can expect to experience the greatest winds, rain, and storm surges. These predictions are less accurate several days before and become more precise the closer the storm is to landfall. This means that along a large area stretching across several states many people and business will be anticipating the arrival of the storm, but in the end only some



of them will feel the full brunt of the storm. Many others will be relatively unaffected.

Nevertheless, all of the people who might be potentially affected by the storm will begin to act in anticipation. The natural reaction for households is to stock up on things you might need, either during the storm or in case supplies become unavailable for a period of time. Thus, during the few days when the storm is approaching, individuals will rush to markets to purchasing, milk, bread, eggs, toilet paper, gasoline, generators, ice and many other daily necessities. Economists call this an increase in precautionary demand, but the more common term is hoarding. It is hoarding because consumers will often not buy just enough to get by until after the storm passes, but instead will buy many times more than they actually need. The obvious visual effects will be supermarkets and home goods centers filled with people, shelves that are emptied, and long lines at the gas stations.

### **Envisioning a Free Market Response**

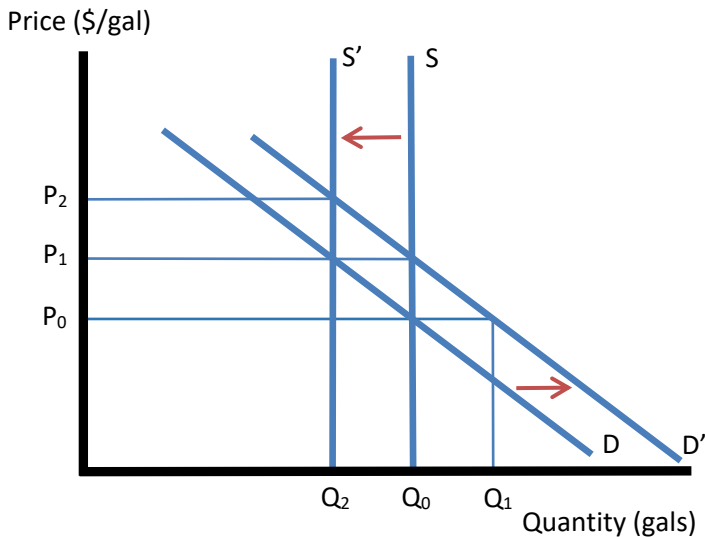
Let's consider the free market response first, and afterwards we'll look at what actually happens. Figure 19.3 shows a market for a product in high demand during an impending hurricane, such as gasoline. Notice that the supply curves are vertical rather than upward sloping. This reflects the fact that in the very short-run, over a week or two, supplies cannot be swiftly altered as prices change, hence we can represent supply as the fixed quantity that is on the shelves, or in the storage tanks, when the hurricane first appears in the distance.

As the hurricane approaches market demand for gasoline will shift to the right from  $D$  to  $D'$ . In essence the expectation that supply will be unavailable in the near future is equivalent to expecting an increase in the future price. As a result there will be excess demand for the product of  $Q_1 - Q_0$  at the original price. The gasoline service stations would also be watching the news of the approaching hurricane and may be receiving messages from suppliers that future shipments will be delayed. Thus, businesses will desire to reduce their short term supply to stretch sales over a longer time horizon and to make greater profit once higher prices prevail. Let's imagine then that short-term supply is reduced from  $S$  to  $S'$ . As a result, excess demand increases further to  $(Q_1 - Q_2)$ .

In a free market, profit-seeking gasoline businesses would respond to the lines forming and the rapid depletion of stocks by increasing the prices. To maintain the equality of supply and demand the rise in price would have to be sufficient to eliminate the precautionary demand,  $(Q_1 - Q_0)$ , for which the price would have to rise to  $P_1$ . The price would have to rise even further to  $P_2$  to force demand below the pre-storm levels to match the expected reduction in supplies caused by the impending disruptions.

If the price of gasoline were raised to a much higher level immediately as the hoarding begins, then hoarding would quickly cease because the consumers would balk at the higher price. Only demand that is deemed essential enough to justify paying the higher price would remain. Lines at service stations would not arise because demand would fall to a level less than on a normal day. Consumers with a desire to hoard merely as a precaution and not due to an imminent need will decide to wait to buy until the price comes back down. Of course, by the time the price reverts back to normal the emergency will have passed and the desire to hoard will be gone. One other thing to note about this market outcome, after the price rises there will always be gasoline available to buy if you are willing to pay the higher price. The fact that supplies remain means that consumers would not have to worry that gasoline will not be available to buy, only that it is very expensive.

Figure 19.2 Market Responses to an Approaching Hurricane



**Reality Check:** The story above about the free market adjustment to a coming hurricane is unrealistic because of the assumption of perfect information. Perfect info implies that we know precisely how much demand increases (the demand curve shift is known) and for how long and it what quantity supply will be reduced (the supply shift is known). This in turn means that merchants know precisely by how much to raise the price to maintain the equality of supply and demand. However, it is precisely in emergency situations like this that uncertainty rises. For example, a few days before the hurricane, no one will know exactly where the hurricane will make landfall and who will be most affected. Many people fail to prepare for hurricanes because they have experienced many false alarms in the past where authorities would warn of impending danger but the hurricane passes elsewhere, or is less intense than the warnings.

Because of uncertainties, gasoline merchants will not know how much to raise the price when the increase in precautionary demand becomes apparent. Service stations in an area may respond with different price increases leading consumers to search for the cheapest higher price. Those service stations with the cheapest higher prices may see their stocks quickly deplete unless they respond quickly with further price increases. Some service stations may raise their price well above the competition thereby guaranteeing no lines and enabling more desperate consumers with money to buy small amounts generating a hefty per unit profit for these merchants.

### The Real World Response

In reality, neither of the above scenarios usually arises. The reason is because the general public will typically react with anger and hostility towards any merchant that raises its price above the normal prevailing price. Increases in prices in a situation like this is popularly referred to as price gouging. Gouging means to overcharge or swindle consumers. In this case it is viewed as especially egregious because the merchants are raising the price on a product for which consumers are suddenly desperate, due to the impending emergency, and which did not cost the merchant any extra to buy because the products were purchased before the emergency. In other words the merchant could sell the product at the usual price and make a small normal profit

which implies that selling at a much higher price is generating above normal profit from consumers facing a serious emergency. This looks stunningly unfair to anyone except the merchants themselves and free-market oriented economists.

The result is that enormous pressure, often in the form of anger and hostility, is brought to bear on any merchant that raises prices in an emergency situation such as this. As a result most merchants avoid raising prices and continue to charge the usual price despite the sudden increase in demand. Because some merchants in situations like this have exercised their market freedom to charge whatever they wish, and have raised prices despite the resistance, many consumers have petitioned their state governments in the US to enact price gouging laws expressly prohibiting merchants from raising their prices to unconscionable levels in emergency situations. As many as 34 US states have enacted such laws which includes substantial fines for any businesses guilty of raising its prices by too much in certain prescribed situations.

For most people, this is an example of government intervening appropriately to make sure markets work in favor of the people. However, some economists believe this is actually an example of governments intervening in a way that makes the outcome worse, even for the people it is designed to help. To understand the latter point of view we must consider some of the broader effects of the price gouging law and compare it to the market outcomes in which producers are allowed to raise the price.

First, we'll consider the effects in a classic perfect competition setting and afterwards will step outside the model to discuss the likely dynamic effects over time. The first thing to note is that a price gouging law acts like a price ceiling when the emergency conditions apply because it acts to prevent the price from rising.

Thus, we can refer back to the welfare effects of a price ceiling relative to the free market, shown above in Section 17.2, and note that while producer surplus falls, the consumer surplus effect is mixed. The mixed outcome for consumers arises because those consumers who are lucky enough to buy the product at the lower price benefit, while those who are unable to purchase it lose. When the net effects are evaluated, the losses to producers and some consumers are greater than the benefits to the lucky consumers resulting in a reduction in overall economic efficiency. In other words, the price gouging law reduces net welfare compared to the free market outcome.

### **Opportunity Costs of Lines**

However, there are several other impacts of a price gouging law that are not captured in the standard market model. One important consideration is the effects of lines or queuing that arise as the hurricane approaches. One cost of lines is the opportunity costs incurred by those waiting. Everyone waiting cannot be doing whatever is their next best thing to do because they have to wait for gas. Of course the fact that they choose to wait means this is their most pressing need at the moment. However, this need is artificially more severe because they expect that supply will completely disappear soon and this is what inspires the desire for hoarding. Nevertheless, if waiting in line could be eliminated (as it would be if market prices prevailed) then all those waiting in line would be freed to accomplish their next best task.

When analyzing the effects of the price ceiling we noted previously that because the scarce product is allocated on a first-come-first-served basis, it means that it is allocated randomly rather than based on the strength of one's need. For example, when prices do not rise, a person at the front of the line may be a retired homeowner filling up extra gas cans to be sure he can

run his lawnmower next week. A person at the back of the line who will not be served if the station runs out of gas, may be a person trying to fill his truck so he can drive to help his sick grandmother evacuate from the eye of the impending storm. These differences in intended uses are often recognized by desperate line sitters and sometimes causes social upheaval (the person with the sick grandmother may overhear that the retiree is getting gas for his lawnmower and decide he doesn't deserve to be at the front of the line, and so an argument may ensue). Gasoline merchants usually respond to this problem by limiting purchases to a small fixed amount per customer to be sure that more people can acquire some gas. A police presence is also sometimes needed to maintain order in these line, representing an additional opportunity cost.

The fixed quota may prevent the retiree from hoarding too much gas, but may mean the driver with the sick grandmother will not be able to purchase enough gas to get to her and will have to wait in another line later if he is lucky enough to get the small amount at the first station. When the station does run out of gas, all who were in the line and were unserved have not only wasted time with no reward, they will also have to move to the back of another line and hope they are luckier next time.

The costs of waiting in lines and the costs of the of the social turmoil and anxiety caused by lines add greatly to the costs of the price gouging policy but are often ignored by the policy proponents. However, these costs would mostly disappear if the merchants are allowed to raise prices in the emergency. With higher prices the retiree worried about gas for his lawnmower will decide it's not in his interest to stock up, while the driver who is trying to reach his grandmother quickly, will drive up without a wait and grudgingly buy just enough gas to get him to his grandmother's house. All the turmoil, anxiety and the opportunity costs of line waiting would disappear. In its place, would be the frustration of higher prices, for sure, but also a fairer allocation of gas to those who have decided for themselves that they have the greatest need.

### **The Issue of Resupply**

Another argument supporting free markets involves the incentives to respond to the crisis over time. If merchants selling these scarce goods in sudden great demand are allowed to raise the price and can make greater profit doing so, then many others with a stock of these products near the affected areas will respond to the emergency by moving greater supplies into the area. Their motivation is profit. Those who can move in gasoline most quickly will be able to cash in on the temporarily higher prices and make some of the profit for themselves. This is the nature of market competition. The higher the prices go, the quicker will be the nearby resupply because the more money there is to earn.

But suppose the price gouging law is enforced, or equivalently suppose citizens react with hostility towards anyone who would sell at a higher price in this situation. In this case, nearby stockpiles of needed commodities are less likely to be moved in. Sure, there may be charitable giving by some with extra supplies, but it is unlikely that nearby service stations will donate dozens of tanker trucks filled with gasoline and move them into the area in anticipation of the hurricane. Even if the extra gasoline could be sold at the same price, rather than donated, there is no improvement relative to keeping it home.

This is probably the strongest argument for allowing merchants to raise prices in the face of precautionary demand. Although the merchants will make a temporary windfall, that windfall is precisely what will draw in extra supply which will most quickly lower the price back to its normal level. This the price system is a mechanism that will help resolve the temporary

shortage more quickly.

### **The Issue of Fairness**

One of the most common arguments for applying a price gouging law in emergencies is to maintain equity or fairness for lower income individuals. When prices rise for essential goods in an emergency, it is the poorest individuals who are least able to pay the higher prices. Thus, less wealthy households will suffer the most from higher prices since they may be shut out of the market entirely. In contrast, wealthy households can more easily pay the higher prices and will suffer less. This strikes most people as inherently unfair and is a strong reason why a price gouging law is considered compassionate and more equitable.

There is a problem with this rationale though. Keeping the price of, say gasoline, low with the price gouging law does not assure that lower income households will be the ones who can purchase the scarce commodity. Although the price gouging law makes the good affordable, it does not increase its availability and in fact because hoarding is not readily prevented, it actually makes the availability of the goods worse.

Although some lower income households may be among the lucky ones at the front of the queue, many others may not be able to purchase the good at all because they are too far back in the line. In addition, the opportunity cost of waiting in line may be very high for lower income households who have to take off work to wait in line for gasoline. For example, suppose a lower income household earns income in a delivery job, or as an Uber driver. To maintain their income they may need much more than the fixed allowance used to maintain equity by service station owners. As a result their income may suffer a greater decline both because of the waiting in line and because of the limited ability to purchase. Finally, lower income households who suffer from the limited supplies, will also have to wait longer for resupplies because profit seekers are discouraged from entering with the price gouging law in place.

### **Recap**

There are many other tradeoffs one can consider. Although one cannot argue that a free market solution is clearly better than applying a price gouging law, one cannot claim the opposite either. Much depends on the summation of the many individual cost and benefit comparisons that would arise under the different policies. But one thing to take away from this discussion is that the case for price gouging laws are not as crystal clear as one would suppose. Most people haven't thought as hard about the numerous adjustments to be expected from a price gouging law. Many economists who have considered it, firmly believe that the market will bring about a quicker and fairer solution for a larger share affected by the emergency. Other economists may disagree because it all comes down to a measurement of the costs and benefits which could tilt in either direction. It is quite possible too that a price gouging law would work best in one particular emergency but the market solution would work best in other cases.

The complexity of the issue should make it ripe for continued experimentation and measurement. But in order to make better comparisons, there would need to be some instances in which the market is allowed to operate freely. Unfortunately though, because of popular public resistance, it seems unlikely that the public would allow a free market outcome without a hostile reaction. Free market advocates may dream of a time where the public responds to large price increases in an emergency by saying, "Of course prices rise. That's what's supposed to happen when there is sudden excess demand!" Instead, we are more likely to see a continuation of a policy that clearly has many defects and may even make things much worse for the very

people it is supposed to help.

### **Key Takeaways**

1. Price gouging laws are used to prevent unconscionable price increases by merchants of essential items in an emergency situation.
2. A price gouging law is equivalent to a government price ceiling for particular goods in certain situations.
3. Price gouging laws prevent the operation of a free market, which would “solve” the excess demand problem by raising the prices of the goods.
4. The key benefits of the free market approach in an emergency is that scarce goods would be allocated more on the basis of individually determined need, there would be little to no queuing (thus avoiding the panic that often ensues), and rapid resupply would be stimulated.
  - a. The key costs associated with a price gouging law is that the above benefits would not occur.
5. The key cost of a free market approach is the general perception of unfairness arising from extra profit being earned by merchants and concerns about low income household access to scarce necessities.
  - a. The key benefits of applying a price gouging law is that the above costs would not occur.