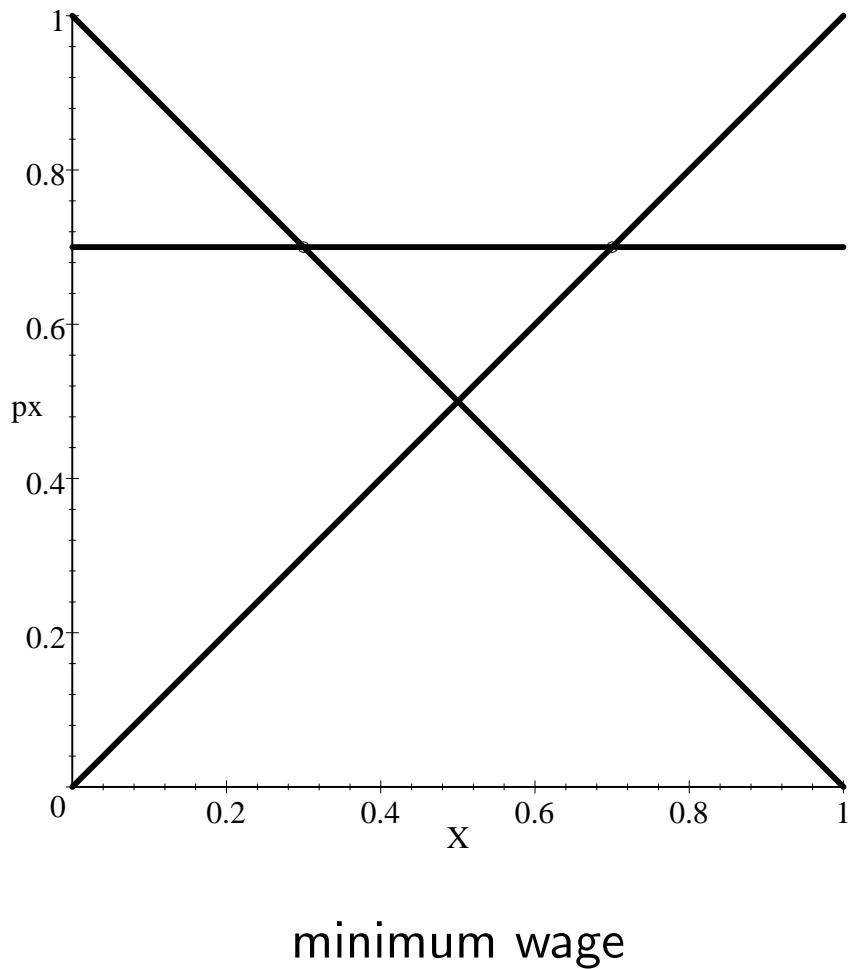


Interfering with Markets: Minimum Wage

Suppose the equilibrium wage would be .5 without a minimum wage law. If Congress sets a minimum wage of .7, there is excess supply of labor at that price.



With the minimum wage in effect, the market price will be .7, since market forces will bid the wage down to the legal limit. The quantity of labor demanded is only .3, so that is also the quantity that can be supplied.

Even if the jobs are rationed efficiently, with the workers enjoying the largest surplus getting the jobs, there is a *deadweight loss*, due to the missing triangle of total surplus.

Since there is excess supply, there is no reason to suppose that jobs will be allocated efficiently. Someone willing to work for .2 might lose out to someone willing to work for .65.

Those lucky enough to find a job benefit from the minimum wage. Buyers of labor (firms) and those who are unemployed are worse off.

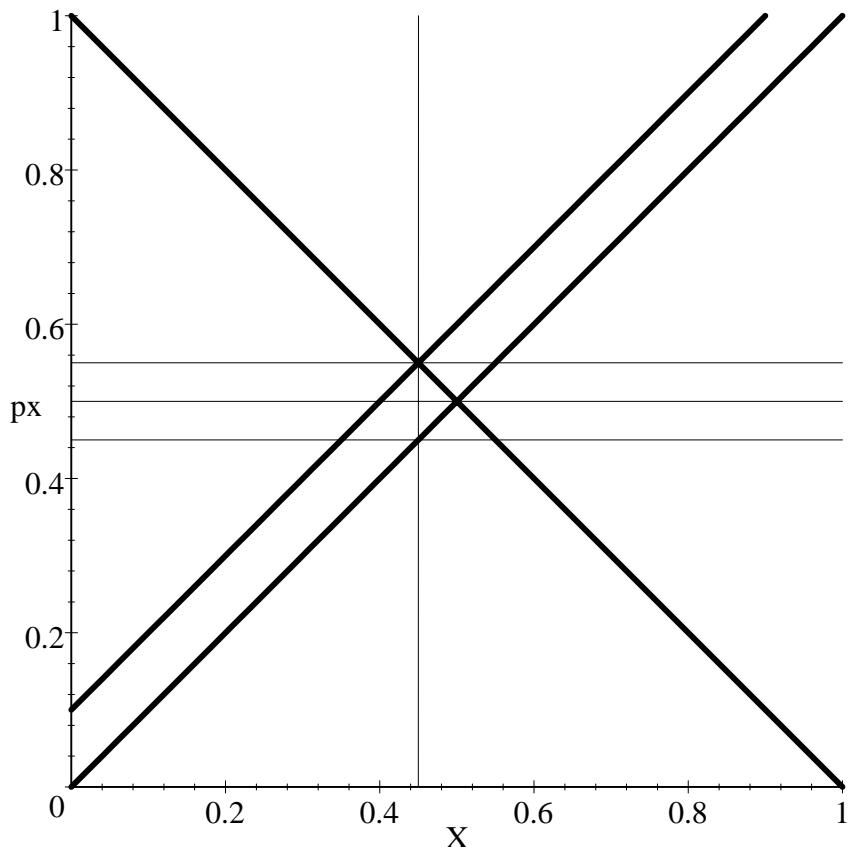
Firms may decide to employ higher skilled workers (whose wage is above the minimum) instead. In other words, demand for low skilled labor is likely to be highly elastic, due to a superior product that is a close substitute. This means that the reduction in quantity demanded and the deadweight loss is likely to be large. The wage in the higher skilled labor market will increase.

What are the economic arguments in favor of minimum wage laws? (1) If employers are not perfectly competitive, and are using their market power to keep wages low. (2) If there are political constraints that prevent direct transfers to these workers, a minimum wage and welfare system could be a slightly inefficient alternative.

Analogous to the rationing of supply that goes along with a price set artificially high by government, similar inefficiencies arise when the government sets a price artificially low and the demand side of the market is rationed. Rent Control.

Interfering with Markets: Tax

Suppose the government imposes a tax on the sellers of pop. Who bears the ultimate burden, and what about efficiency?



Tax of 0.1: Short Run

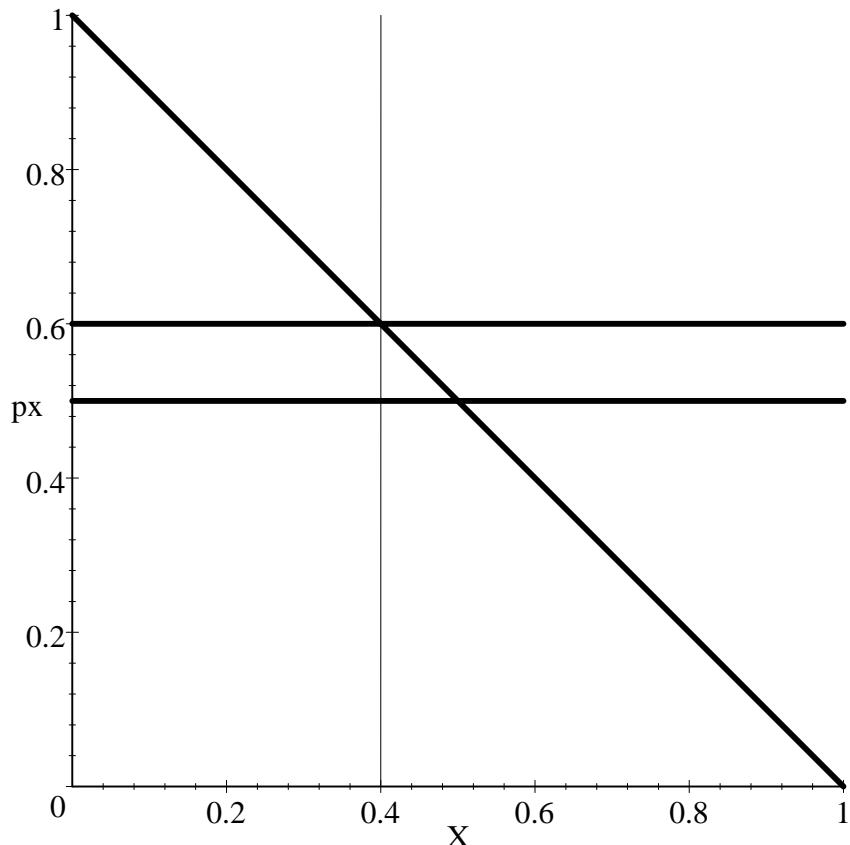
Since the tax is levied on firms, marginal cost increases by .1, so the market supply curve shifts up by .1.

The new short run equilibrium price is $p_x = .55$, and the quantity is $X = .45$. The price paid by consumers goes up from .50 to .55, and the price received by firms (after tax) goes down from .50 to .45.

The burden of the tax, in this case, is shared equally by consumers and firms in the short run. The government receives revenues of $(.1)(.45)$, which is the area of the two small rectangles in the diagram.

Government revenues are offset by a reduction in consumer and producer surplus. In addition, there is a deadweight loss triangle.

In the long run, average total cost increases by .1, so the long run supply curve shifts up by .1. Firms received zero profits before, and they receive zero profits after. The new price is $p_x = .6$, and the new quantity is $X = .4$. Firms exit the industry, and output falls even more. The burden of the tax is borne entirely by consumers in the long run.



Tax of .1: Long Run

Discussion of Perfect Competition

1. Competition may seem very comfortable: you receive zero profits, but that includes a market return on capital. In reality, you can't sit around. Profits are transitory, and everyone less efficient than the typical firm cannot survive.
2. Long run profits are available if you are better than the rest of the market (lower LRAC). But you must stay better.
 - (a) Maybe you have better managers. But then competition from other firms will bid up their salaries. Maybe the managers only better at managing your firm, or the competition does not know about them. (This is a departure from perfect competition in the labor market.)
 - (b) Maybe you have a patent on a lower cost process. (This is a departure from perfect competition.)

(c) Maybe you have a better technology. But innovation can be imitated. Try to estimate the duration of your advantage in making R&D decisions. A big but easy-to-imitate innovation is not as profitable as a small but difficult-to-imitate innovation. *Process* innovation can be more effective than *product* innovation.

If innovation can be imitated immediately, no firm will invest resources in order to innovate. The price would just fall to the new minimum LRAC, profits are zero from then on, and you are out the cost of innovation. *There is a tension between the invisible hand (static efficiency) and the incentive to innovate (dynamic efficiency).* This is the reason for patent laws.