

Handout 06 - ECON 101 (Fall 2026)

Intervening in Markets

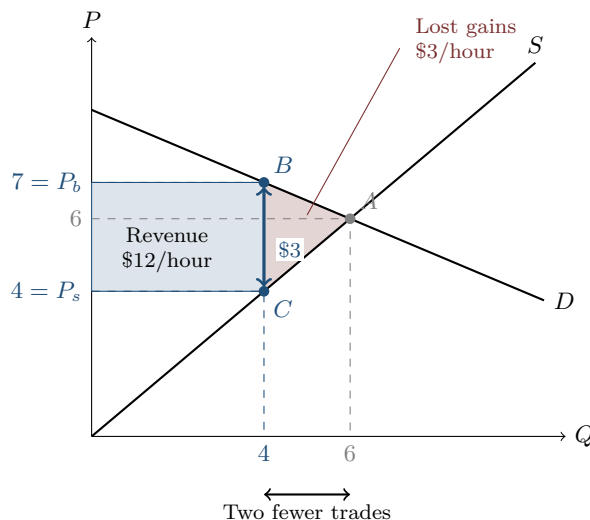
1 A Tax Separates the Buyer's Payment from the Seller's Receipt

Return to Handout 4's price-taking sandwich market during a lunch hour: $Q_d = 18 - 2P$ and $Q_s = P$. Here P is dollars per sandwich and Q is sandwiches per hour. Without intervention, **six sandwiches trade at \$6 each**. The same units apply to every graph below.

1.1 Two prices, one traded quantity

Suppose sellers must send government a **\$3 tax for each sandwich sold**. Buyers respond to their payment, P_b ; sellers respond to the receipt they keep, P_s . Read demand and supply at those *different* prices, but at the *same* traded quantity:

$$\underbrace{P_b - P_s}_{\text{tax wedge}} = \$3.$$



A: before the tax. Buyers pay \$6 and sellers receive \$6; six sandwiches trade.

B: buyers pay \$7. On demand, buyers want four sandwiches: **\$1 more per sandwich** than before.

C: sellers keep \$4. On supply, sellers offer four: **\$2 less per sandwich** than before.

The vertical distance $B-C$ is the \$3 tax. Four sandwiches are both bought and sold; the tax has separated the two prices.

1.2 Payments to government and trades that disappear

The **blue rectangle** covers the four completed trades. Each brings government \$3, so revenue is **\$12 per hour**. This payment transfers money to government; it is not itself a lost gain from trade.

The **outlined triangle** covers the two missing trades. Between $Q = 4$ and $Q = 6$, buyers' willingness to pay still exceeds sellers' additional production cost, as in Handouts 2 and 3. The tax prevents those beneficial trades. Their lost gains are called **deadweight loss**: here the triangle has area $\frac{1}{2} \times 2 \times \$3 = \$3$ per hour.

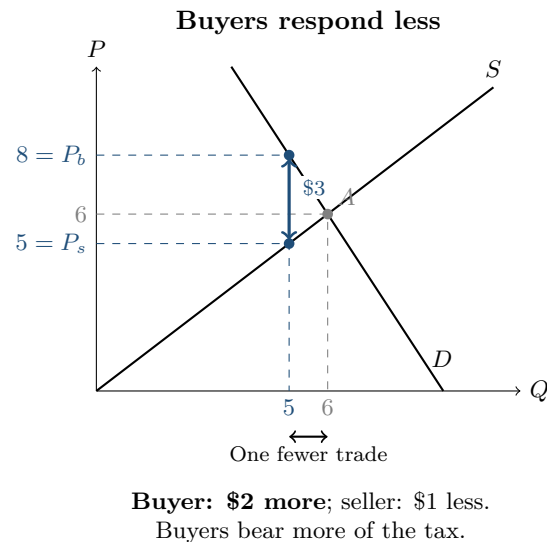
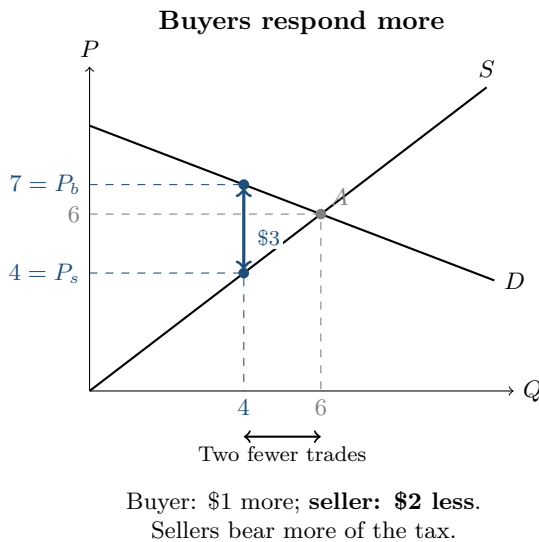
Who sends the money is not the same as who bears the burden. Although sellers remit all \$3, buyers bear \$1 and sellers bear \$2, measured against the original \$6 price.

Where to revisit the material. Taxes, prices, and lost trades: textbook Section 6.1, pp. 136–145, slides 28–46, worksheet Q1 and Q4. Textbook references use Stevenson and Wolfers, *Principles of Microeconomics*, 3rd ed. Slide numbers count PDF pages. Module 7 develops the welfare framework.

2 Responsiveness Determines the Burden

2.1 The side with fewer alternatives bears more

Compare **two separate markets**, each starting at \$6 and six sandwiches. Supply is identical, and both face a \$3 tax. Only buyers' responsiveness differs. These are two demand curves being compared, not a demand shift within one market.

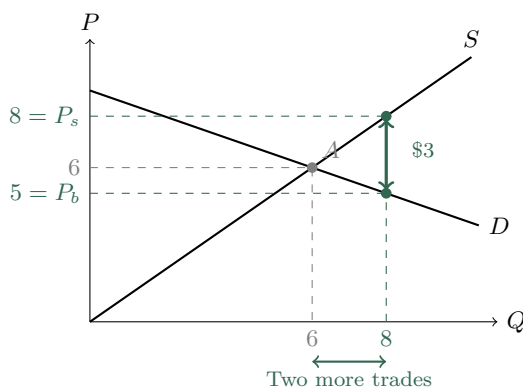


Buyers who can readily reduce purchases avoid more of the burden. When they have fewer alternatives, their payment rises more. The general rule is: **the less elastic side bears more of the tax**. As in Handout 5, compare responsiveness using elasticity; the diagrams share the same starting point, units, and scales.

Collecting the tax from buyers instead would give the same prices, quantity, and economic division in this competitive model.

2.2 A subsidy reverses the wedge

Return to the original sandwich market. Government now pays **buyers a \$3 subsidy per sandwich**. Sellers receive more than buyers pay net: $P_s - P_b = \$3$.



Eight sandwiches trade. Sellers charge \$8; after receiving the \$3 subsidy, buyers pay \$5 net.

Buyers gain \$1 per sandwich; sellers gain \$2, relative to the original \$6 price. Paying the subsidy to buyers does not give them its entire benefit.

Government pays $\$3 \times 8 = \24 per hour. The **less elastic side captures more of the subsidy benefit**; here that side is supply.

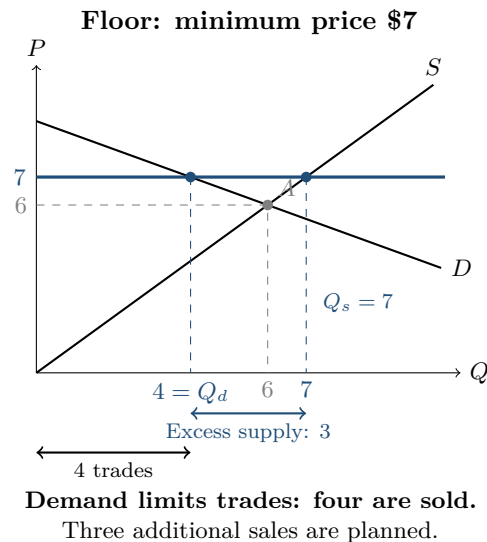
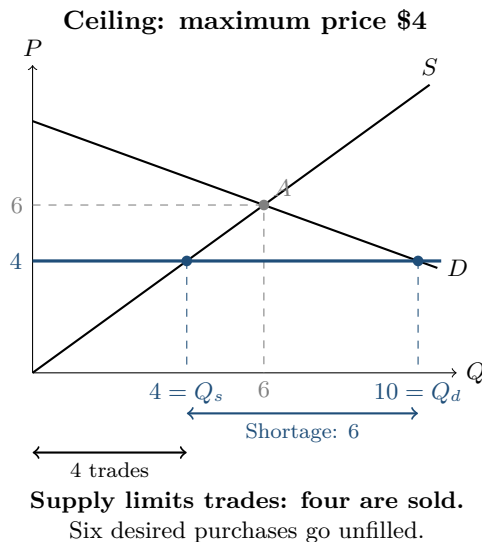
Where to revisit the material. Incidence and subsidies: textbook Section 6.1, pp. 136–145, slides 47–66, worksheet Q1 and Q2.

Responsiveness: Handout 5, pp. 1 and 3.

3 Binding Controls Change Which Trades Can Take Place

3.1 Price controls: compare plans at the legal price

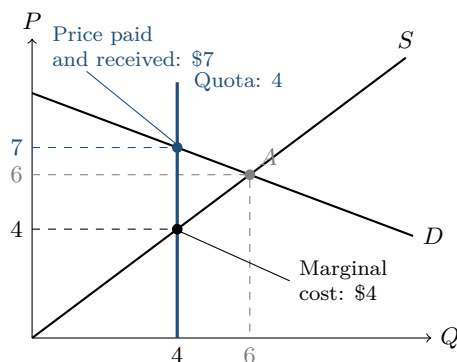
A control is **binding** if it blocks the original equilibrium. In our sandwich market, a ceiling below \$6 or a floor above \$6 binds. A control that permits the \$6 equilibrium is **nonbinding**.



These are **different plans at one legal price**, not shifts in demand or supply. With a ceiling, who gets the scarce sandwiches depends on allocation rules, waiting, or search. With a floor, excess supply means planned offers, not necessarily sandwiches already produced. Here controls are enforced, available trades occur, and government does not buy the excess.

3.2 A seller quota limits quantity directly

A cap of **four sandwiches per hour** also binds: without it, six would trade. Buyers bid the price up to \$7 on demand.



Same quantity; different payments

Policy	Q	Buyer pays	Seller gets	Gov't revenue
\$3 tax	4	\$7	\$4	\$12
\$4 ceiling	4	\$4	\$4	\$0
\$7 floor	4	\$7	\$7	\$0
Quota of 4	4	\$7	\$7	\$0

Prices are per sandwich; revenue is per hour.

Under the quota, sellers **receive \$7**. The \$4 supply height is the cost of the marginal sandwich. Their gap does not automatically become government revenue. Here the lowest-cost sellers hold the selling rights and pay no government fee.

All four policies reduce trades to four, but distribute payments differently. The ceiling also leaves a shortage and an allocation problem. **Equal quantities do not establish equal welfare effects.**

Where to revisit the material. Price and quantity controls; comparing policies: textbook Sections 6.2–6.4, pp. 146–155, slides 5–27, worksheet Q3. **Buyer quotas, mandates, and allocation mechanisms:** Sections 6.2–6.3.