Handout 08 - ECON 101 (Fall 2026)

Trade

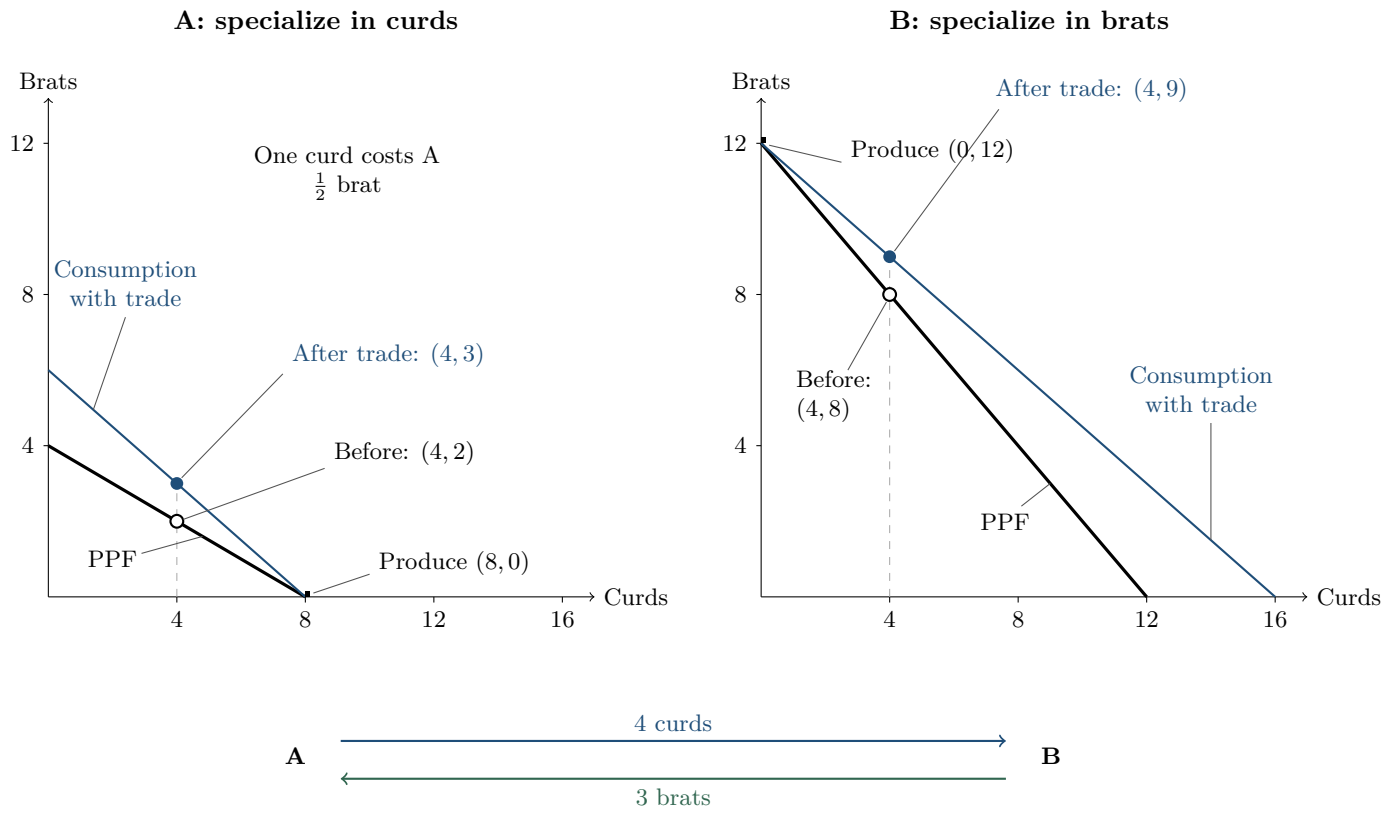
1 Trade Depends on What You Give Up

Why trade with someone who can produce more of everything? Compare two producers using the **same input: one worker-day**. Their goods are identical baskets of curds and baskets of brats. Each can divide the day between the two goods.

Producer	Curds only	Brats only	Cost of one extra curd
A	8	4	$\frac{1}{2}$ brat
B	12	12	1 brat

B has an **absolute advantage** in both goods: more output from the same input. But A gives up fewer brats to make a curd, so A has the **comparative advantage in curds**. B has it in brats: one brat costs B one curd, but costs A two curds.

1.1 Production stays on the PPF; consumption can move beyond it



The exchange price is $\frac{3}{4}$ **brat per curd**, between the two opportunity costs. A gets more brats per curd than making brats at home; B buys curds for fewer brats than producing curds itself. **Both keep four curds and gain one brat** relative to the marked before-trade bundles. The PPFs do not move: trade expands consumption possibilities. Full specialization follows from constant opportunity costs here; it is not required for gains from trade in general.

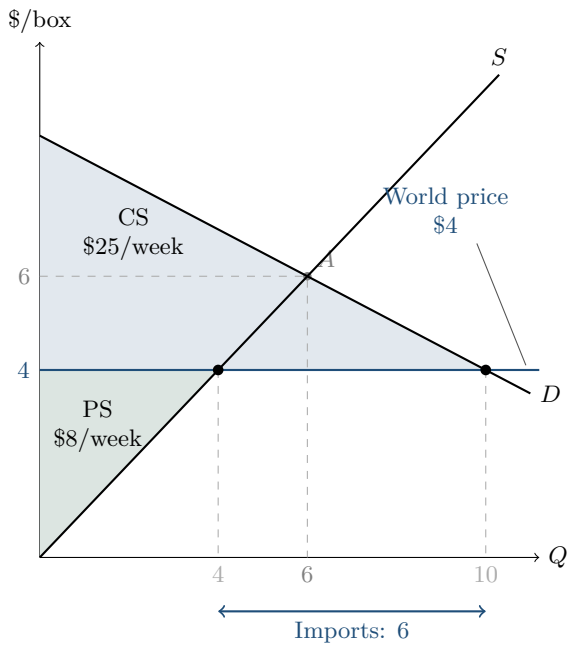
Where to revisit the material. Stevenson and Wolfers, *Principles of Microeconomics*, 3rd ed., §§8.1–8.2, pp. 186–195, and §9.1, pp. 208–212; Module 8 slides, PDF pp. 10–46; Worksheet 8, Q1–Q2. Slide references throughout count PDF pages.

2 Imports and Exports Fill the Gap

Now consider a tradable good: **boxes of cereal**. Use the familiar market $Q_d = 18 - 2P$, $Q_s = P$, with P in dollars per box and Q in boxes per week. Without trade, point A is six boxes at \$6. Assume competition, a **small country that takes the world price as fixed**, and no additional transport costs or external effects.

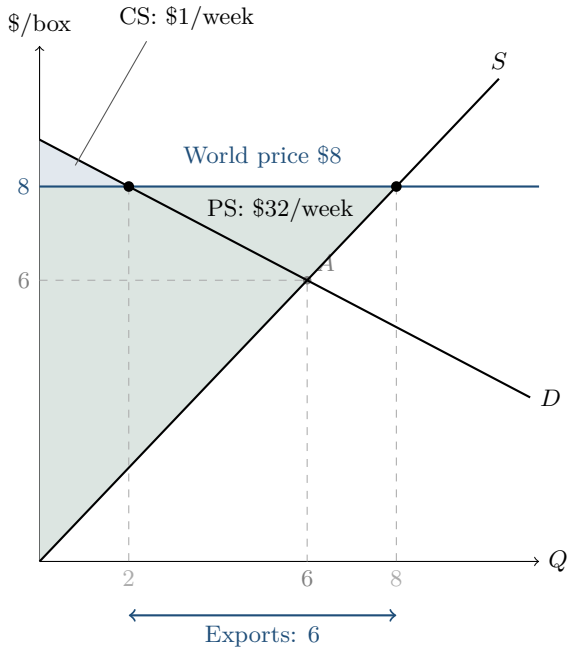
2.1 The world price changes domestic purchases and production

World price \$4: imports



Domestic sellers produce **4**; buyers purchase **10**. The other **6 boxes arrive from abroad**. Imports fill the gap, so it is not an unfilled shortage.

World price \$8: exports



Domestic sellers produce **8**; domestic buyers purchase **2**. The other **6 boxes are sold abroad**. Exports absorb the gap, so it is not unsold excess supply.

The domestic price equals the world price in this model. Follow the movements *along* the original curves: trade changes the price and quantities; it does not require a shift in domestic demand or supply.

2.2 Larger total gains can come with domestic losers

Outcome	Consumer surplus	Producer surplus	Total surplus
No trade, \$6	\$9	\$18	\$27
Imports at \$4	\$25	\$8	\$33
Exports at \$8	\$1	\$32	\$33

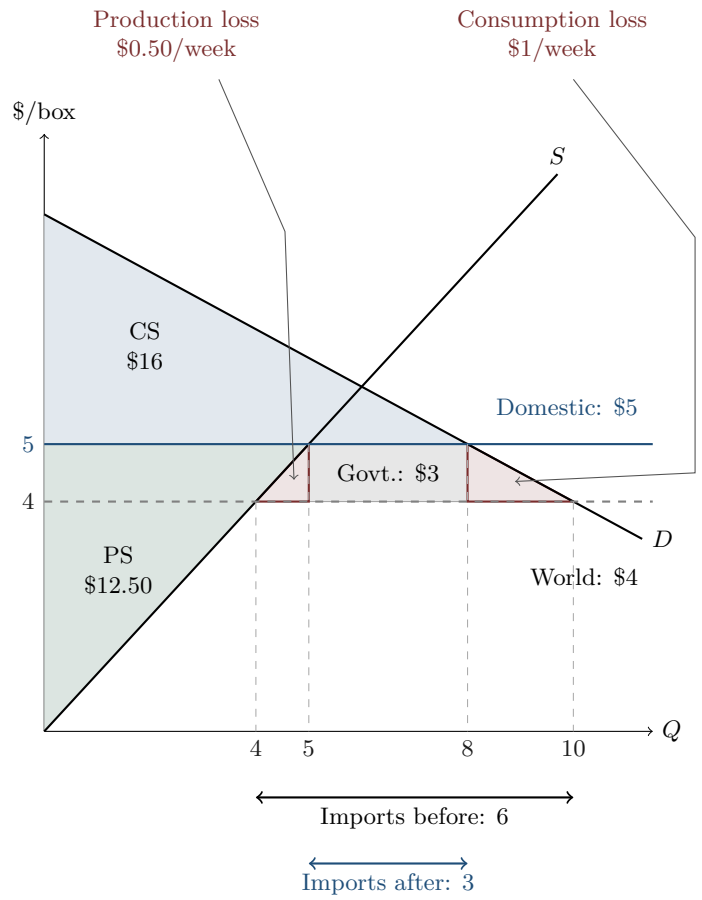
All surplus amounts are dollars per week.

As in Handout 7, the shaded areas add gains across trades. With imports, buyers gain \$16 while domestic sellers lose \$10: the net gain is \$6. With exports, domestic buyers lose \$8 while sellers gain \$14: again \$6. **An aggregate gain does not mean everyone benefits**, nor does it mean compensation takes place.

Where to revisit the material. Textbook §9.2, pp. 212–222; Module 8 slides, PDF pp. 58–66 and 74–76; Worksheet 8, Q3 and Q5. Handout 7 explains the surplus areas.

3 A Tariff Changes Both Production and Consumption

Continue the importing case. A **$1 tariff per imported box** raises the domestic price from $4 to $5; the world price stays $4. Domestic production rises from 4 to 5, purchases fall from 10 to 8, and **imports fall from 6 to 3 boxes per week**.



Domestic sellers receive $5 even though the tariff is collected only on imports. Buyers can no longer obtain imports for $4, so competing domestic sellers can charge the higher price too.

Production loss: $0.50. The fifth domestic box costs more to produce than the $4 cost of importing it. The tariff induces this extra domestic production.

Consumption loss: $1. Two purchases disappear even though buyers value those boxes more than the $4 world cost.

Government revenue: $3. The $1 tariff is collected on the *three imported boxes*, not on all eight purchases. All areas measure dollars per week.

3.1 Where does buyers' lost $9 go?

Additional domestic PS: $4.50	Government: $3	Lost gains $1.50

Buyers' surplus falls from $25 to $16. Of that $9 decrease, **$7.50 is transferred** to domestic sellers and government; **$1.50 is deadweight loss**. Total surplus is now $16 + $12.50 + $3 = $31.50 per week, below free trade's $33 but above the no-trade $27.

The losses come from changed decisions. Simply moving money from buyers to sellers or government does not, by itself, destroy surplus.

A quota changes who receives the revenue. An import quota of three boxes gives the same price and quantities here. The $3 becomes income for holders of import licenses unless government captures it, for example by auctioning the rights. This limits *imports*, unlike Handout 6's cap on domestic sales.

The efficiency comparison does not settle every policy question. Security or environmental goals may matter, and adjustment costs for workers and communities can persist. Aggregate gains alone do not resolve these concerns.

Where to revisit the material. Textbook §9.4, especially pp. 226–229; Module 8 slides, PDF pp. 77–99; Worksheet 8, Q4. For the broader policy debate, revisit §§9.3 and 9.6.