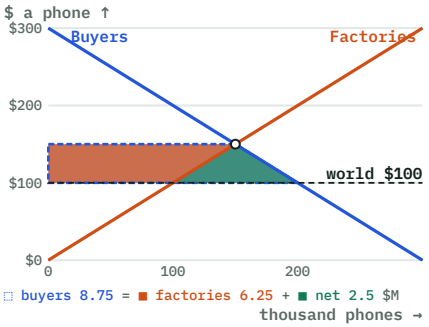
Who loses when the factory moves?

The world price, imports and exports, who gains and who loses when a border opens, the net gain, why the loss is louder, what two real studies found, and three ways to share the gain: Coralia's market for phones.

1 World price

imports

- Phones · BUYERS `Qd = 300 − P` · CORALIAN FACTORIES `Qs = P` (Q quantity: thousand phones a year · P price: $ a phone) · no trade → **$150** · **150** thousand
- **World price** = price set by all the world's sellers · small country buys or sells any amount at it, cannot change it → it sets the price at home
- **Imports** = goods bought from abroad · world price **below** home price → `imports = Qd − Qs` · at **$100**: 200 − 100 = **100** thousand
- Price ↓ → buyers buy more (150 → 200) · home factories make less (150 → 100)



2 Gain and loss

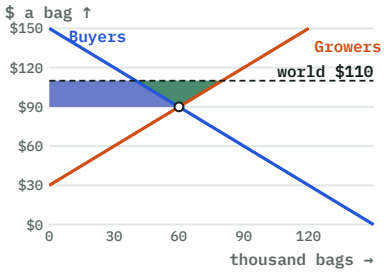
areas on the chart

- **Surplus** = gain from a trade: buyers → what they would have paid − what they paid · sellers → what they got − what it cost them
- BUYERS' GAIN = area between the two prices, left of buyers' line (trapezoid) · `average width × price drop` = (150 + 200) ÷ 2 × $50 = **+$8.75M** a year
- FACTORIES' LOSS = same, left of factories' line · (150 + 100) ÷ 2 × $50 = **−$6.25M** · < lost sales: unmade phones cost nothing
- NET GAIN = gain − loss = **+$2.5M** = green triangle `½ × imports × price drop` = ½ × 100 × $50 · units: thousand × $ = $ thousand
- Practice · sneakers `Qd = 200 − P`, `Qs = P`, $100 → $80 · imports 40 · buyers **+$2.2M** · factories **−$1.8M** · net **+$0.4M**

3 Exports

the mirror image

- World price **above** home price → **exports** = goods sold abroad · `exports = Qs − Qd`
- Coffee · `Qd = 150 − P`, `Qs = P − 30` · no trade $90 · 60 → world **$110**: buyers 40, growers 80 ⇒ exports **40** thousand bags
- SELLERS gain (60 + 80) ÷ 2 × $20 = **+$1.4M** · HOME BUYERS lose (60 + 40) ÷ 2 × $20 = **−$1M** · net **+$0.4M**
- Imports → buyers win, makers lose · exports → makers win, buyers lose · country gains both ways



4 Thin gain

thick loss

- Buyers $8.75M ÷ 1,000,000 households = **$8.75 each** a year · factory town $6.25M ÷ 5,000 households = **$1,250 each**
- Gain spread thin over many → hardly noticed · **concentrated loss** = few people, each loses a lot → louder in the news · both real
- Who gains, loses, both → decided by **what you buy and what you make**, not by country · buyer of phones → gains · factory worker → loses · factory owner who buys a phone → both · shirt maker selling to Palmera → gains

5 Real studies

both can be true

- **Autor, Dorn, Hanson** · three US economists · **2013** → US towns facing Chinese imports, 1990–2007: more unemployment, lower pay · ≈ **one quarter** of the fall in US manufacturing jobs
- **Fajgelbaum, Khandelwal** · two economists · **2016** → poorer households spend more on goods that cross borders (food, clothes) → trade typically **favors the poor as buyers**
- Different people measured → no contradiction: thin gain + thick loss, in real data

6 Sharing the gain

each way has a price

- Winners could pay losers in full and keep **$8.75M − $6.25M = $2.5M** · whether and how → a choice for voters; economics shows the numbers
- **Retrain** (US Trade Adjustment Assistance **1962–2022**, then lapsed: training, moving help, longer unemployment pay) · for: aimed at the losers · against: new job not always as good
- **Tax and transfer** · for: helps anyone who falls · against: a payment ≠ a job or a town · **Slow the opening** · for: time to change · against: buyers keep paying more, town maybe only delayed

Watch out: net gain for the country ≠ everyone gains · factories' loss = lost surplus, not lost sales revenue · the price is set by the **world price**, not where the home curves cross