Is a price cut a raise?

Tacos fall from $4 to $2 and Nadia buys two more. One because tacos are now the better deal (substitution), one because her $16 goes further (income). The tool that splits them: the compensated budget.

1 Two effects

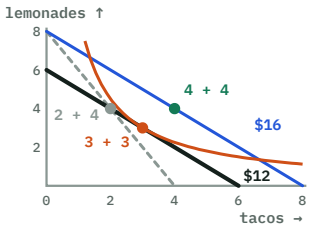
one price change

- Price ↓ ⇒ (a) the good is cheaper **compared with others** · (b) the same money buys **more of everything**
- **Substitution effect** = change in what you buy because the good got cheaper or pricier than others, **buying power held fixed** ⇒ always **toward the cheaper good**
- **Income effect** = change because the money goes **further** (or less far) ⇒ sign depends on the good
- Nadia: $16 · lemonades $2 · points = `tacos × lemonades` (made up) · tacos $4 → $2 ⇒ best **2 + 4** (8 pts) → **4 + 4** (16 pts) · **+2 tacos** in all

2 Compensated budget

the tool that splits

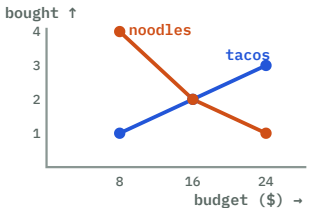
- **Compensated budget** = new prices + just enough money for the **old bundle** ⇒ no richer, no poorer
- ① old lunch at new prices `2 × $2 + 4 × $2 = $12` ⇒ take away **$4** · ② best on the $12 line **3 + 3** (9 pts) ⇒ 2 → 3 = **substitution +1** · ③ give the $4 back ⇒ 3 → 4 = **income +1**
- Practice · Omar $24, tacos $6 → $2: `2 × 2 + 6 × 2 = $16` ⇒ 2 → **4** → 6 ⇒ **+2, +2**
- Price **rise** ⇒ **give** money · Omar, tacos $3 → $6: old 4 + 6 costs `$36` ⇒ +$12 ⇒ best 3 + 9 ⇒ 4 → **3** → 2 ⇒ **–1, –1**
- Eugen **Slutsky**, Russian, **1915** (keep the old bundle affordable) · John **Hicks**, British, *Value and Capital*, **1939**, with R. G. D. Allen, British, **1934** (keep the old points) ⇒ same signs



3 Normal or inferior

which way income pushes

- **Normal good** = more when richer (tacos) · **inferior good** = less when richer (instant noodles, bus rides once you can buy a scooter) · inferior ≠ bad
- **Engel curve** = quantity against **income** · Nadia at $8 · $16 · $24 ⇒ tacos **1 · 2 · 3** ↑ · noodles **4 · 2 · 1** ↓ (made up) · Ernst **Engel**, German statistician, family budgets, **1857**
- Price ↑ ⇒ substitution **–** always · income **–** (normal: poorer, buy less) or **+** (inferior: poorer, buy more) · `total = substitution + income`



4 Giffen good

rare: price up, buy more

- **Giffen good** = inferior good so big in a poor family's budget that the **income effect beats** the substitution effect ⇒ price ↑, quantity ↑
- Practice (made up) · price ↑: tacos `−1 − 1 = −2` **normal** · bus `−3 + 1 = −2` **inferior, not Giffen** · millet `−2 + 3 = +1` **Giffen**
- Evidence · Robert **Jensen** and Nolan **Miller**, American, **2008**: cheaper rice for very poor households in Hunan, China ⇒ they ate **less** rice · wheat in Gansu: weaker
- Legends · Irish potatoes, British bread ⇒ the data do not support them · Alfred **Marshall**, British, named it after Robert **Giffen**, Scottish, *Principles*, **1895**

5 Cash or a voucher

idea 2 of 11

- **Voucher** = help that can be spent only on one good, cannot be sold · tacos $4, lemonades $2
- $16 · Nadia (own $16): cash **4 + 8 = 32** · voucher **32** ⇒ same · Omar (own $8): cash **3 + 6 = 18** · voucher 4 tacos + 4 lemonades = **16** ⇒ less
- Practice · $12 voucher (3 tacos): Nadia (own $12) **18 · 18** · Omar (own $4) cash 2 + 4 = **8** · voucher 3 + 2 = **6**
- ⇒ voucher = cash **only** if the person would buy at least that much anyway · cash: people choose · voucher: the money goes to the good it was meant for · no verdict here (Economic Policy, Lesson 10)
- **Eleven ideas behind the curves** · `1 · A demand curve is a chain of best bundles` `2 · A price change is two effects: substitution and income` · next at university: the **Slutsky equation**

Watch out: the whole change is **not** the substitution effect (Nadia: +2 = **+1** substitution + **+1** income) · price **rise** ⇒ give money, not take it · inferior ≠ Giffen: Giffen only if income **beats** substitution