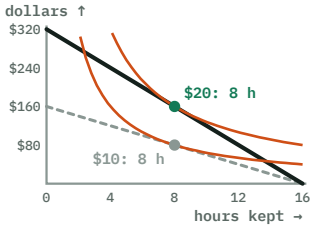
Would you work more if your wage rose?

Mateo doubles Nadia's pay for picking strawberries, from $10 to $20 an hour, and she still works 8 hours. The raise pushed her two ways at once: time off got pricier (work more) and she got richer (work less). Saving is the same choice with other goods.

1 Selling your time

leisure against dollars

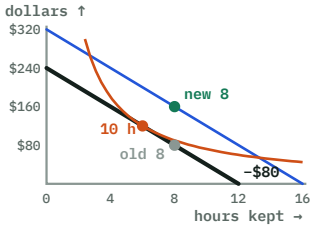
- **Endowment** = what you start with and can sell or keep ⇒ Nadia: **16 waking hours** a day
- **Leisure** = hours kept for yourself ⇒ its price = the pay given up = **the wage**
- Budget line of a day `C = w × (16 − hours kept)` · raise ⇒ line **pivots** around the 16 hours
- Points = `hours kept × dollars` (made up) · $10: keep **8**, work 8, **$80** (640 pts; 7 or 9 kept: 630) · $20: keep **8**, work 8, **$160** ⇒ doubled pay, **same hours**
- Micro 1, Lesson 9 ⇒ market supply slopes up · here: where **one person's** supply comes from



2 Two effects of a raise

pulling apart

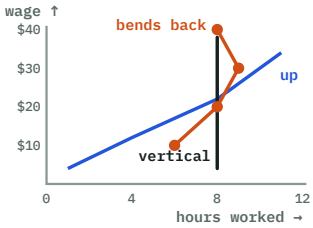
- **Substitution effect** = an hour off costs more pay ⇒ keep fewer hours ⇒ **work more**
- **Income effect** = richer ⇒ buy back time off (a normal good: more of it when richer) ⇒ **work less**
- **Compensated line** = new wage – just enough money that the old day only just fits · $20 line pays `$160` at 8 kept, old day needs $80 ⇒ take away **$80**
- On it: keep **6**, work **10**, $120 (720 pts; 5 or 7 kept: 700) ⇒ substitution **+2 h** · give $80 back ⇒ 10 → 8 ⇒ income **−2 h** · cancel **only for this rule**
- Practice · Omar, 12 hours, $5 → $15: old day 6 kept, $30 ⇒ take away `15 × 6 − 30 = $60` ⇒ 6 → **8** → 6 hours ⇒ **+2, −2**



3 Shape of the supply curve

which effect wins

- Substitution wins ⇒ **slopes up** (Micro 9) · they cancel ⇒ **vertical** (Nadia's rule) · income wins at high wages ⇒ **bends backward**
- **Backward-bending supply** = at high wages a higher wage ⇒ **fewer** hours · practice, Lucía (made up): 6 · 8 · 9 · 8 h at $10 · $20 · $30 · $40
- **Reservation wage** = the lowest wage at which she sells her **first** hour
- Gift paid **whatever the hours** (non-labor income) ⇒ line moves up, same slope ⇒ **income effect only** · practice: Nadia + `$40` a day ⇒ keep 10 (1,000 pts) ⇒ 8 → **6 h**



4 The real world

taxi drivers, a debate

- New York taxi trip records ⇒ do real workers bend back?
- **1997** · Colin **Camerer**, Linda **Babcock**, George **Loewenstein**, Richard **Thaler**, American economists ⇒ **fewer** hours on high-pay days, as if aiming at a **daily income target**
- **2005 · 2015** · Henry **Farber**, American economist ⇒ drivers stop after enough **hours**, not enough income · 2009-2013 data ⇒ most drivers' hours **rose** with the wage
- Daily target ≈ **reference point**: ending below it feels like a loss (Behavioral 3) · still argued ⇒ **no verdict**

5 Saving

idea 3 of 11

- Same picture, other goods ⇒ dollars **now** against dollars **next year** · endowment = this year's **$200** · **interest rate** = what a saved dollar earns
- Points = `now × next year` · 10%: spend $100, save **$100** ⇒ **$110** · 20%: save **$100** ⇒ **$120** ⇒ better return: save more · richer: spend more now ⇒ cancel here
- Practice · Omar `$300` ⇒ saves **$150** at 10% (⇒ $165) and at 20% (⇒ $180) · Irving **Fisher**, American, *The Theory of Interest*, **1930** · real savers: the pull of "now" (Behavioral 6)
- **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` `3 · Selling what you own (your hours, your future money) is the same choice` · next at university: the **Slutsky equation** (Lesson 2: the two effects as one formula) **with an endowment**

Watch out: "a higher wage always means more hours" is wrong · same hours ≠ no effect (Nadia: **+2** and **−2**) · a gift paid whatever the hours has **no** substitution effect