Should the government spend in a recession?

A deep slump: how much to spend to close the gap, spending vs tax cuts, who gets the money, and what the US saw in 2009 and 2020.

1 Problem · tool

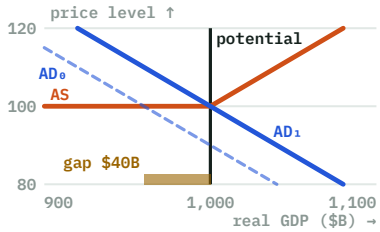
gap

- **Recession** → spending ↓ ⇒ shops sell less ⇒ layoffs ⇒ spending ↓ again
- **Recessionary gap** = potential GDP − real GDP · toy: $1,000B − $960B = **$40B**
- **Fiscal policy** = spending · taxes · transfers (checks, benefits) · set by **government + parliament** (budget) ≠ interest rate = central bank (Policy 7)

2 Multiplier

rounds of spending

- $1 → builder spends 80¢ → café spends 64¢ → … = `1 + .8 + .64 + …`
- **MPC** = share of an extra $ spent · **multiplier** = `1 ÷ (1 − MPC)` = 1 ÷ 0.2 = **5**
- Deep slump ⇒ idle workers + machines ⇒ AS (aggregate supply = what firms offer) **flat** at price level 100 up to potential, then rising ⇒ more output, **same prices**



3 Close the gap

gap ÷ multiplier

- **Spending** needed = `gap ÷ multiplier` = 40 ÷ 5 = **$8B** (not $40B) · gap $60B → **$12B**
- Spend more ⇒ AD (aggregate demand = total spending) past potential ⇒ real GDP up only a little ⇒ **prices ↑** (overshooting: $10B ⇒ real GDP $1,005B, not $1,010B; price level ≈ 101)
- **Tax cut** · tax multiplier = `MPC ÷ (1 − MPC)` = **4** ⇒ needed **$10B** (families save 20¢ first) · MPC 0.75 → multipliers 4 and 3 ⇒ $60B gap: **$15B** spending or **$20B** tax cut

4 Who gets it

first round × 5

- AD shift = `5 × first round` · purchase $10B → **$50B** · jobless (90¢) → **$45B** · families (80¢) → **$40B**
- Tax 50¢ → $25B · **rich (40¢) → $20B** · savers (10¢) → $5B ⇒ **targeted aid** = money that gets spent
- Tax multiplier < spending multiplier: purchases are spent in **full** in round 1

5 Frictions

crowding out · lags

- **Crowding out** · borrowing ⇒ interest rate ↑ ⇒ investment ↓ · $8B − $2B = $6B × 5 = **$30B** (gap left $10B) · rates stuck near zero ⇒ weaker
- To still close $40B: net $8B + $2B crowded out ⇒ spend **$10B**
- **3 lags** → recognition (see it) · decision (vote) · action (spend) · **automatic stabilizers** = benefits, taxes move on their own ⇒ **no vote**

6 Evidence

US 2009 · 2020

- **2007-10** · recession Dec 2007 · named Dec 2008 (NBER = US economists who date recessions) · law **Feb 2009** ≈ **$800B** · recession ends Jun 2009 · ≈ **70%** spent by Sep 2010
- Unemployment **8.3%** (Feb 2009) → peak **10%** (Oct 2009) · fail? ⇒ need **counterfactual** = what would have happened without it (never seen, estimated)
- **CBO** (Congressional Budget Office, counts the cost of US laws) **2010** · GDP per $1 · purchases **1.0-2.5** · benefits **0.8-2.1** · tax cut low/middle **0.6-1.5** · tax cut high pay **0.2-0.6** ⇒ real < toy 5 (taxes, imports, prices)
- **2020** · unemployment 4.4% → **14.8%** (Mar → Apr) · shock visible at once ⇒ law in March ($2 trillion+, $1,200 per adult, +$600 a week) · Dec 2020: 6.7%

7 Trade-off

policy card

- FOR idle workers and machines put to work · $1 can add > $1 · AGAINST late, crowding out, debt for future taxpayers
- **Positive** (dates, data can test) ≠ **normative** (“should always spend”: values)
- Policy card: problem **$40B gap** → tool **spend · cut taxes · transfers** → model **$8B or $10B closes it** → evidence **US 2009 ≈ $800B, multiplier 0.2-2.5** → trade-off **jobs now vs lags · crowding out · debt**