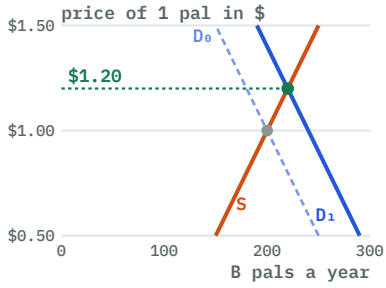
Can a country be too rich in oil?

An oil boom lifts the currency, the other exports cost more abroad and lose buyers (Dutch disease), resource-rich countries grew more slowly on average (the resource curse), and what an oil fund changes: Palmera's pal, $1.00 → $1.20, shirt sales 140 → 120 thousand.

1 Oil → the pal

the market for a currency

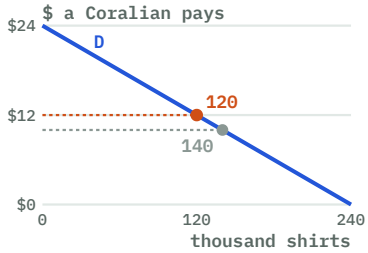
- **Natural resource** = found, not built (oil, gas, copper) → pump it, sell it · **pal** = Palmera's money · `e` = price of 1 pal in $
- **Demand** for pals ← foreigners paying for Palmeran things, oil too · `D = 300 − 100e` · **supply** ← Palmerans buying foreign things · `S = 100e + 100` (B = billion pals a year)
- **Equilibrium** = wanted = offered → **$1.00**, 200B · at $1.30: wanted 170, offered 230 → price falls
- Oil sold abroad → buyers need pals → **D +40B** → **$1.20**, 220B → pal **appreciates** 20% (buys more $) · practice: gas, D +60B → **$1.30**



2 Costs more abroad

same pals, more dollars

- Price abroad = `price in pals × e` · the maker changes nothing
- 10-pal shirt: $10 → **$12** · practice: 20-pal hat at $1.30: $20 → **$26** · 5-pal coffee at $1.40: $5 → **$7**
- Foreign demand `Q = 240 − 10P` (thousand shirts) → **140 → 120** (−20, ≈ 1 in 7) · coffee `200 − 10P`: 150 → 130 bags → farm gets 750 → **650** thousand pals



3 Dutch disease

1959 gas · 1977 name

- **Dutch disease** = a boom in one export lifts the currency → prices the other exports out of the market
- Chain: oil sold → demand for pals ↑ → pal ↑ → shirts cost more abroad → sales ↓ → factories close
- Netherlands: **Groningen** gas field 1959 → the guilder (Dutch money) up → factories struggled → magazine The Economist, **1977**: "the Dutch disease"
- Bust (practice): oil price crashes → D ↓ → pal $1.20 → **$0.80** → $2,400 motorbike 2,000 → **3,000** pals · closing fast, reopening slow (workers, machines, buyers gone)

4 Who gains?

a stronger pal

- `HAPPIER` Palmerans paying in $ · $12,000 car 12,000 → **10,000** pals · $6,000 fees → 5,000 · $600 phone → 500
- `UNHAPPIER` Palmerans selling abroad · shirt factory, banana farm ($10 → $12), beach resort (100-pal night $100 → $120)
- Oil workers paid ↔ shirts, bananas, tourism pay for it

5 Resource curse

Sachs & Warner 1995

- **Resource curse** = resource-rich countries grew more slowly **on average**
- Jeffrey Sachs & Andrew Warner (American economists, 1995): big resource exports vs GDP (all a country makes in a year) in 1971 → slower growth **1971-89**, even allowing for income and policies
- Two channels: ① Dutch disease ② politics → whoever controls the state controls the oil money → fighting over it replaces building
- A **tendency, not a law** · weaker in some periods and countries → debated · Norway does not undo an average

6 Two paths

what to do with oil money

Norway	Nigeria
Oil fund = state fund that invests oil income **abroad** · state budget uses ≈ **3%** a year · passed **$2 trillion** in 2025	oil ≈ **5%** of the economy but **> 80%** of exports → oil price ↓ ⇒ dollars ↓

- Fund abroad → oil dollars not swapped for pals → pal rises less · practice: D +40B, fund sells 20B pals (**S +20B**) → `340 − 100e = 100e + 120` → **$1.10** → shirt $11 → **130** thousand (no fund: 120)
- `PAL UP` oil price ↑, new field, swap it all into pals now · `PAL HELD DOWN` fund abroad, ≈ 3% a year home, more imports
- Save abroad → spares factories · spend at home → schools and roads now · each side has a case, no verdict

Watch out: e = price of 1 pal in $ → e **up** = pal **appreciates** · price abroad = pals **×** **e** · the shirt maker changed nothing: the currency did · oil money in a fund abroad = pals sold → **S** moves, not D · "curse" = an average, not every oil country