Is inflation always about money?

From 1965 to 1980 American prices rose 2.6 times, and people blamed oil, wages, shops and the government. Milton Friedman said: look at the money. Prices rise when money grows faster than output, and inflation buys jobs only until people expect it.

1 The question

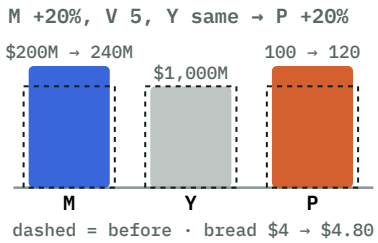
why do prices keep rising?

- US consumer prices (CPI, annual average, 1982–84 = 100, BLS via FRED): `1965 31.5 · 1970 38.8 · 1975 53.8 · 1980 82.4` → `82.4 ÷ 31.5 ≈ 2.6` → a $1 basket of 1965 ≈ **$2.60** in 1980
- Blamed → oil, wages, shops, the government · Friedman → **look at the money**

2 M × V = P × Y

the quantity equation

- (Macro 9) **M** money × **V** velocity (times each $ is spent a year) = **P** price level × **Y** real output · `P = 100 × M × V ÷ Y`
- Coralia: `200 × 5 = 1,000` on $1,000M of goods → P 100, bread $4 · M **+20%** → `240 × 5 = 1,200` → P **120**, bread $4.80 · Y also +20% → P **100**
- Practice: `300 × 4` → M $330M → `1,320 ÷ 1,200` → P 110 · bad harvest Y $1,100M → P **120** (money +10%, prices +20%)
- Prices rise ⇐ money grows **faster than output** · V moves → link breaks: M +25%, V 5 → 4 → P 100



3 Friedman

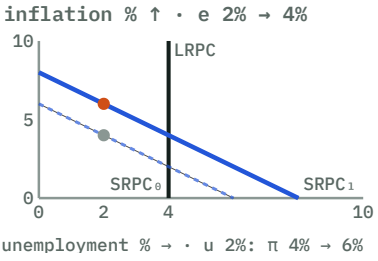
the person, his words

- **Milton Friedman** · American · `1912–2006` · University of Chicago · Nobel **1976** · question of his time → what makes prices rise year after year?
- A Monetary History of the United States, **1963**, with **Anna Schwartz** (American economist) → 1929–33 US money supply −⅓, the **Fed** (Federal Reserve, US central bank) let it → a deeper Depression (History 3)
- Wincott lecture, London, **1970**: “Inflation is always and everywhere a monetary phenomenon in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output.” → about inflation that **persists** · output is in it

4 The natural rate

no permanent trade-off

- (Macro 9) short-run Phillips curve (A. W. Phillips, New Zealand, 1958) **SRPC**: lower unemployment ↔ higher inflation · Coralia `π = e + (4 − u)` : π inflation, u unemployment, e = expected inflation · 1960s → read as a **menu**
- “The Role of Monetary Policy”, **1968**: “there is always a temporary trade-off between inflation and unemployment; there is no permanent trade-off” · “A rising rate of inflation may reduce unemployment, a high rate will not.”
- **Natural rate** = unemployment once people expect the inflation they get (Coralia 4%) · “ground out by the Walrasian system” (Walras, Lesson 4) → **LRPC** (long-run Phillips curve) straight up there
- e 2% → u 2% gives π 4% → e 4% → curve ↑ → u 2% needs **6%** · hold u 2% → π `4 → 6 → 8%` · cure: A `(4%, 6%)` → B `(8%, 2%)` → C `(4%, 2%)`



5 The 1970s

stagflation and the cure

- US 1965 → unemployment `4.5%`, inflation `1.6%` · 1980 → `7.2%` and `13.5%` → both higher → **stagflation** (History 5) = high inflation + high unemployment → the menu could not explain it
- **Paul Volcker**, Fed chair `1979–87` → interest rates ↑ · federal funds rate `19.1%` (June 1981) → inflation `13.5% (1980) → 3.2% (1983)` · unemployment `10.8%` (late 1982) · how much came from the rates → still argued

6 So what

survived, argued

- **Did not survive** → targeting the quantity of money: Oct 1979 Fed aims at bank reserves → fall 1982 back to the interest rate (financial innovation = new kinds of accounts) → after 1986 no M1 (narrow money: cash + checking) target (San Francisco Fed) · V not stable · **survived** → inflation targets + expectations: Fed `2%`, January 2012
- 2020–22: **M2** (broad money: + savings) `$15.5tn (Feb 2020) → $19.6tn (Feb 2021)` ≈ **+27%** · prices `+4.7% (2021) · +8.0% (2022)`, highest since 1981 → ≈ 13% in two years ≈ half → V or Y moved too · supply chains, energy (History 9) → **debated**
- `FOR` stagflation came as he warned in 1968 · hyperinflations (Germany 1923, History 4) fit the equation · `AGAINST` money–spending link loose → Fed back to interest rates within three years
- **Timeline of ideas** · 1776 · Smith · prices coordinate strangers → 1798–1817 · Malthus and Ricardo · land is limited, people are not → 1867 · Marx · profit comes from unpaid work (he said) → 1871–1890 · Jevons, Menger, Walras, Marshall · value is the last unit → 1936 · Keynes · spending decides output → **1963–1968 · Friedman · more money means higher prices, not more jobs, in the long run**

Watch out: prices rise when money grows faster than **output**, not just when money grows · the trade-off is **temporary**: a steady rate, once expected, buys no jobs · expected inflation ↑ moves the **SRPC up**, LRPC stays · “always and everywhere” is quoted short: the sentence goes on “...than in output”