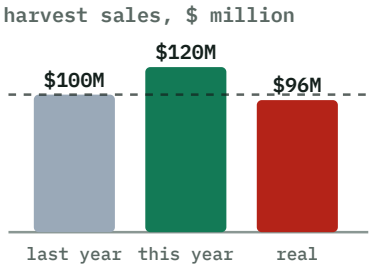
Real or nominal? Is a record really a record?

A sum of money counted in the dollars of its own year is **nominal**. Prices change over the years, so to compare years you divide by a price index and get the **real** value. A record in dollars can be a fall in what the dollars buy. Question 4 of the ten to ask a number.

1 Nominal vs real

whose dollars?

- **Nominal** = in the dollars of each year, as written · **real** = in the dollars of one base year, price changes taken out
- **Coralia Gazette** (the toy island's newspaper): harvest sale $100M → **$120M** "a record!" · but prices **+25%**
- `120 ÷ 125 × 100 = 96` ⇒ **$96M** in last year's dollars ⇒ a real fall of **4%**
- Sales +20% < prices +25% → each dollar buys less



2 Index → deflate

the tool

- **Price index** (follows a basket of things people buy: bread, rent, bus fares) = `cost now ÷ cost in the base year × 100` · **base year** = 100 (Macro Lesson 2)
- **Deflating**: `real = nominal ÷ index × 100`

Case	Index	Real value
Basket $100 → $125 · sale $120M	125	`120 ÷ 125 × 100` = **$96M** (–4%)
Sale $150M, prices +50%	150	`150 ÷ 150 × 100` = **$100M** (no change)
Basket $40 → $46 · pay $400 → $460	115	`460 ÷ 115 × 100` = **$400** (0% real)
Fish $50M → $60M, prices +20% / +25%	120 / 125	**$50M** (level) / **$48M** (–4%)

3 A real rise?

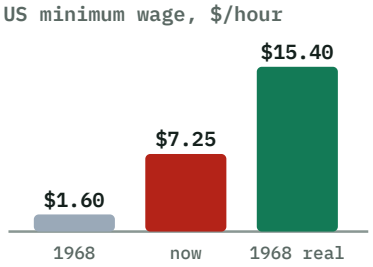
beat the prices

- Real rise ⇔ money rises **faster** than prices · pay $100 → $110, prices +10% ⇒ `110 ÷ 110 × 100` = $100 ⇒ **no** real rise · $100 → $120 ⇒ `120 ÷ 110 × 100` ≈ **$109** ⇒ +9%, not +10%
- **Divide, never subtract**: houses +40%, prices +25% → `140 ÷ 125 × 100 = 112` ⇒ ≈ **+12%** real (not 15)
- Real: "after inflation", "in 2025 dollars", "buys 5% more" · nominal: a plain dollar figure or rise · tons, people, hours → quantities, no deflating
- Extreme: **Germany 1923** (History Lesson 4) → pay set nominal records almost daily while prices ran away

4 Real records

wage · film

- **US federal minimum wage** (lowest hourly pay the national law allows): **$1.60** in 1968 · **$7.25** since 2009
- US prices ×9.6 from 1968 to Aug 2026 (consumer price index CPI-U of the BLS, the US statistics office for prices and jobs: 34.8 → 335.0) ⇒ 1968's $1.60 ≈ **$15** in 2026 prices ⇒ the number rose, its real value fell · whether to change it → debate (Policy Lesson 2)
- **Biggest film**: in each year's dollars Avengers: Endgame (2019) and Avatar (2009) ≈ **$2.9B** · after inflation, one estimate: Gone with the Wind (1939) ≈ **$4.6B** · methods differ → read "about"



5 Savings and falling prices

same tool

- **Real interest rate** ≈ `interest rate − rise in prices` (a rough rule for small rates; Finance Lesson 5) · $100 at 2% → $102, basket $100 → $105 ⇒ ≈ **–3%** · 6% – 2% ⇒ ≈ **+4%**
- **Deflation** (prices fall, index < 100): prices –20% → index 80 · toy sales $100M → $88M "crash" → `88 ÷ 80 × 100 = 110` ⇒ real **+10%** · as in the Great Depression of the 1930s (History Lesson 3)
- Chain: prices rise → the same dollars buy less → a record in dollars can be a real fall → **deflate** before comparing years

6 So what?

question 4 of 10

- **Ten questions to ask a number** · 1 · Where does the axis start, and what is its scale? · 2 · Average of what: the mean or the median? · 3 · Percent of what? Percent or percentage points? · **4 · Real or nominal: did prices change too?**
- Gazette rewritten → "Harvest sales were $120 million, up 20%, but prices rose 25%: in real terms sales fell about 4%." · any money line over many years → ask: in which year's dollars?

Watch out: a money figure is nominal until someone divides by an index · for big changes divide, do not subtract (+40% and +25% → +12%, not 15) · when prices fall, a fall in dollars can be a real **rise** · old records look small only in old dollars