Why is a product I want now more expensive?

Class 21: Inflation

NITWOM

News In The World Of Money

01/25/2023: Inflation is cooling, but prices on many items are going to stay high for months. Prices are still well above where they were a year ago. Retailers are pushing their private label products as substitutes, which are cheaper and may win over budget conscious consumers. This may pressure manufacturers to offer better deals. [Source]

Suppose you are driving a car at a 30 miles per hour. What happens if you…

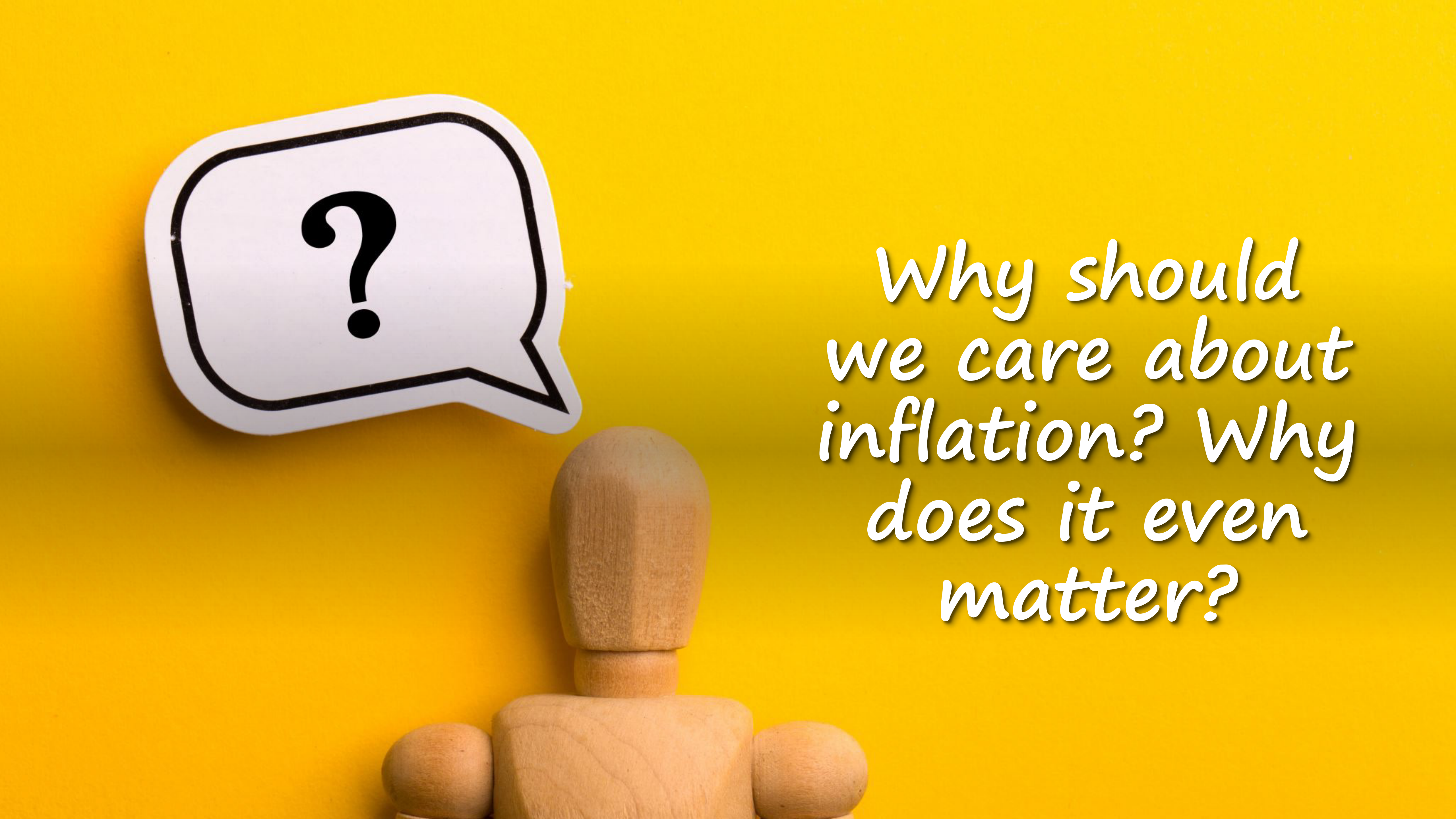
1. Press your foot down on the accelerator with all your might?
2. Take your foot off the accelerator?
3. Press your foot on the brake?
4. Shift the car into reverse and press your food down on the accelerator?

Think of acceleration, deceleration, and the speed of an automobile as metaphors for inflation

Inflation	Disinflation	Deflation	Reflation
• Increase in the cost of goods, services, and information in an economy over time • Example: an annual inflation rate is 6.0% • Metaphor: A car’s speed is 60 MPH	• Decrease in the rate of inflation • Example: an annual inflation rate decreases from 6.0% to 5.5% • Metaphor: A car’s speed has decreased from 60 MPH to 55 MPH	• Decrease in the cost of goods, services, and information over time • Example: an annual inflation rate is -0.5% • Metaphor: A car’s speed is 5 MPH in reverse	• Decrease in the rate of deflation or restoration of inflation after a period of deflation • Example: an inflation rate increases from -0.5% to 2.5% • Metaphor: A car’s direction and speed changes from reverse 5 MPH to drive 25 MPH

3 Types of Inflation

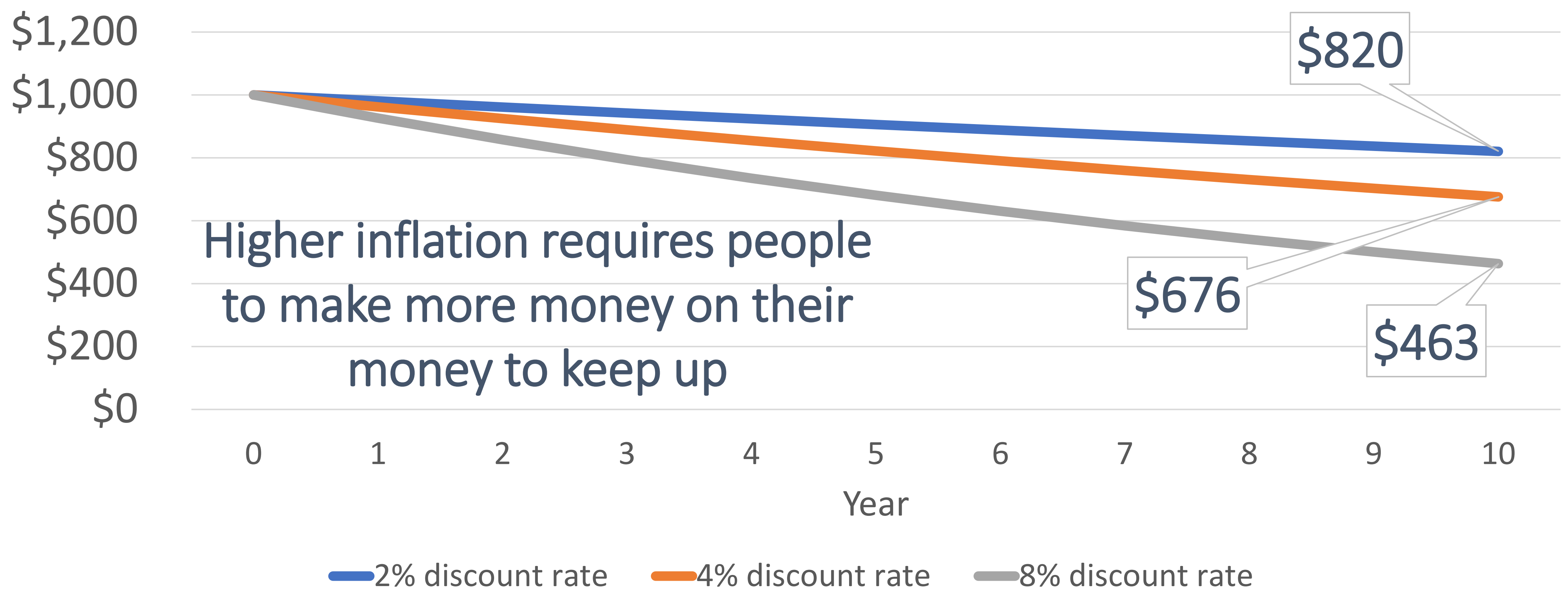
1. Demand-pull inflation
   - Demand for goods, services, and information exceeds supply
   - Example: Soldiers returning during the post-World War II period created an economic expansion that led to increased demand and higher prices.
2. Cost-push inflation
   - Production costs increase, leading to increase in prices
   - Example: The 1970s experienced an oil crisis, causing sharp increases in oil prices. The price increase of oil, which is a crucial input to production and transportation, had a domino effect on other goods
3. Built-in inflation
   - Prices are expected to rise, and people start to anticipate it in their own actions
   - Example: The 1970s had persistently high inflation. People expected prices to continue rising. People demanded more in wages, leading to increased production costs, and ultimately prices


?
Why should we care about inflation? Why does it even matter?

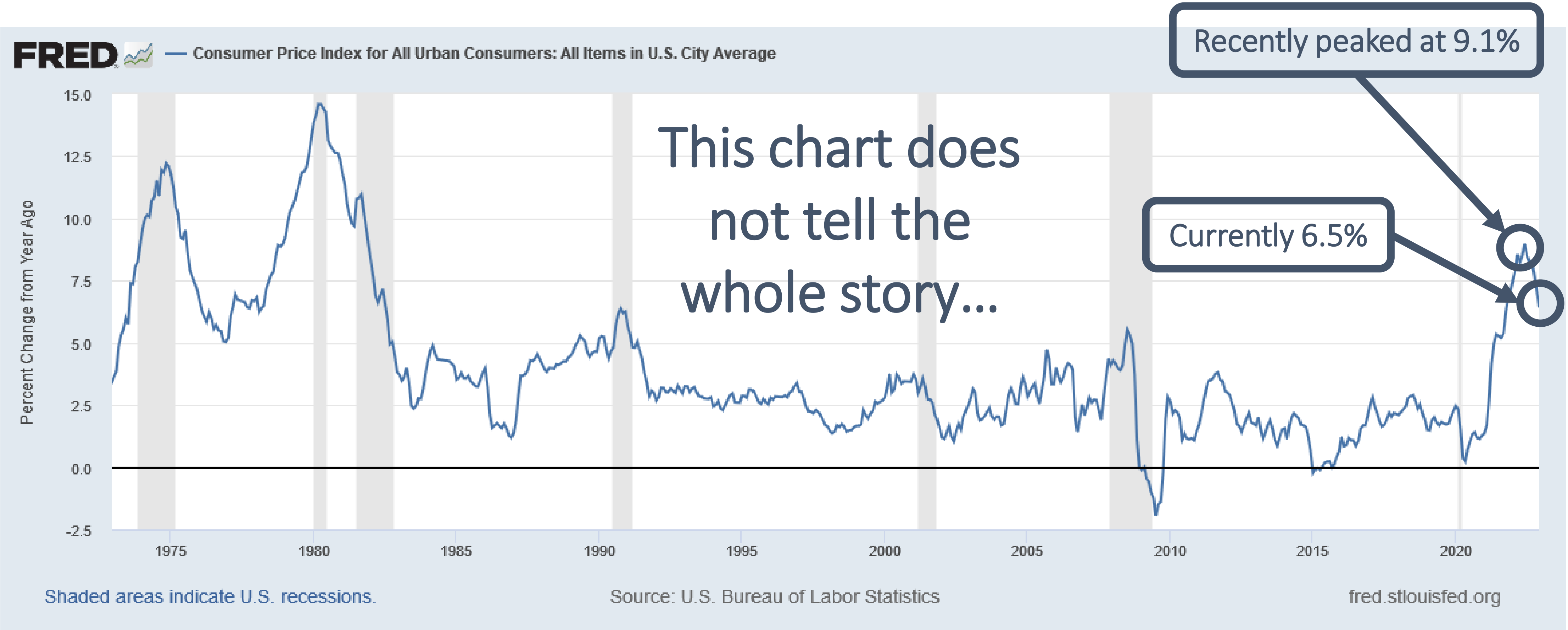
High inflation leads to…

1. decreased consumer spending and increased costs of doing business,
2. increased interest rates, making borrowing more expensive for households and organizations, and
3. a more rapid decline in the purchasing power of your money.
   - Based on time value of money principles, money today is always more valuable than the same amount of money in the future.
   - Higher inflation exacerbates monetary debasement, because future money must be discounted at higher rates.

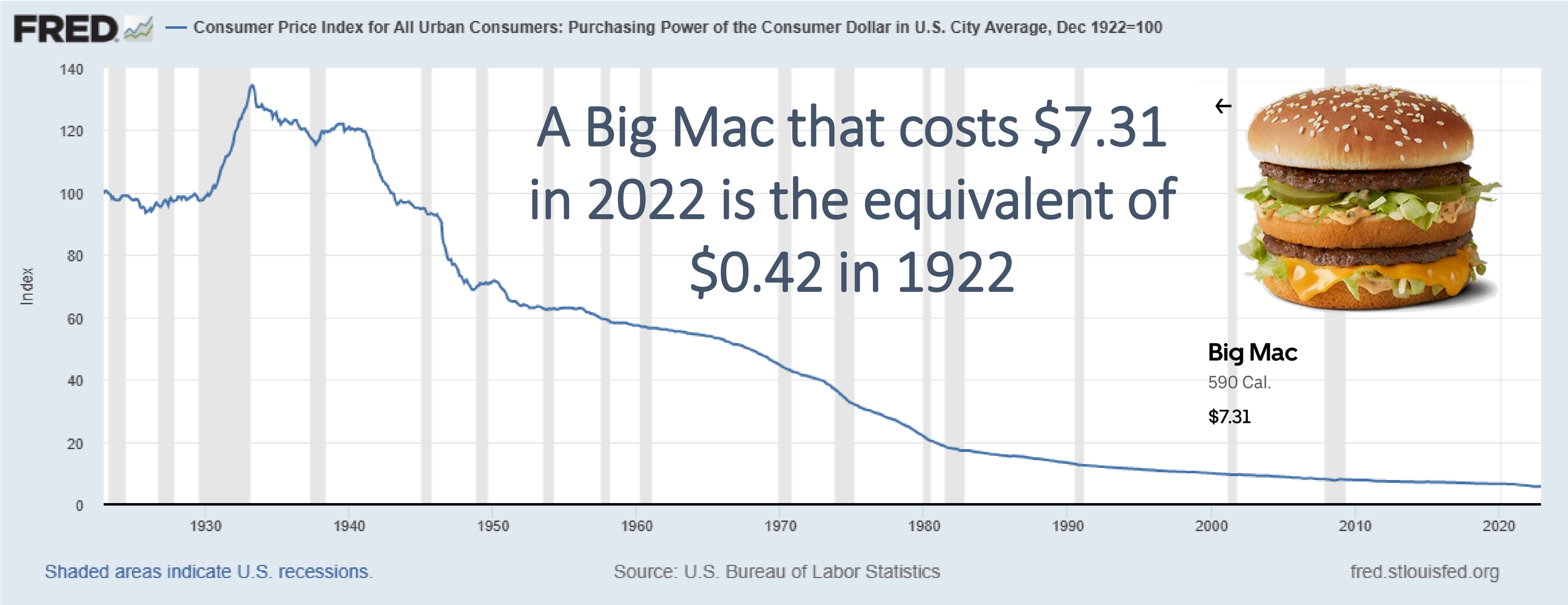
Present Value of $1,000 over a 10-year period at select discount rates



Consumer Price Index ("CPI"), which is a measure of inflation, for the Past 50 years.



How does inflation affect us? The U.S. Dollar lost 94.3% of its purchasing power over the last 100 years.

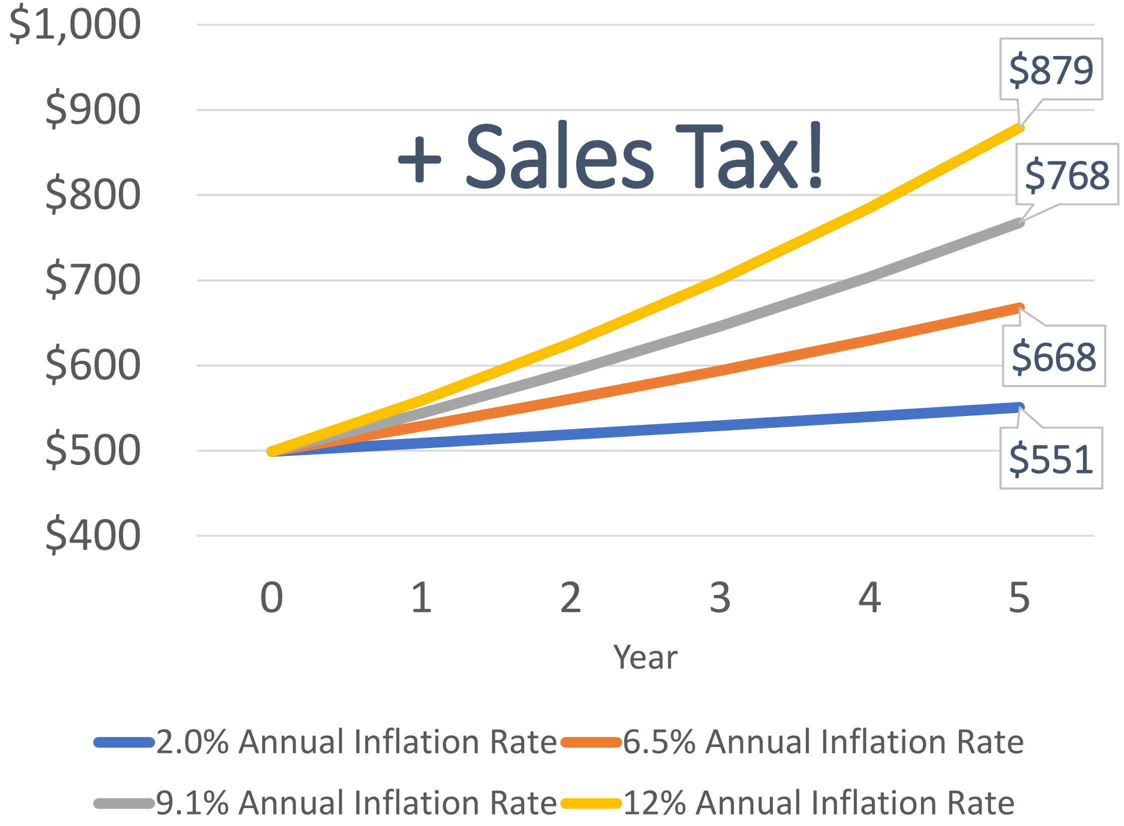


Source: U.S. Bureau of Labor Statistics, Consumer Price Index for All Urban Consumers: Purchasing Power of the Consumer Dollar in U.S. City Average [CUUR0000SA0R], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CUUR0000SA0R, January 22, 2023.

How does inflation affect us? The stuff we need or want costs more. We may need more income to afford it!

Xbox Series X

Current Price $499 + Sales Tax
Current Seattle Sales Tax = 10%



Have any of you noticed inflation on the stuff you need or want?

Previous finlit Class Refresher

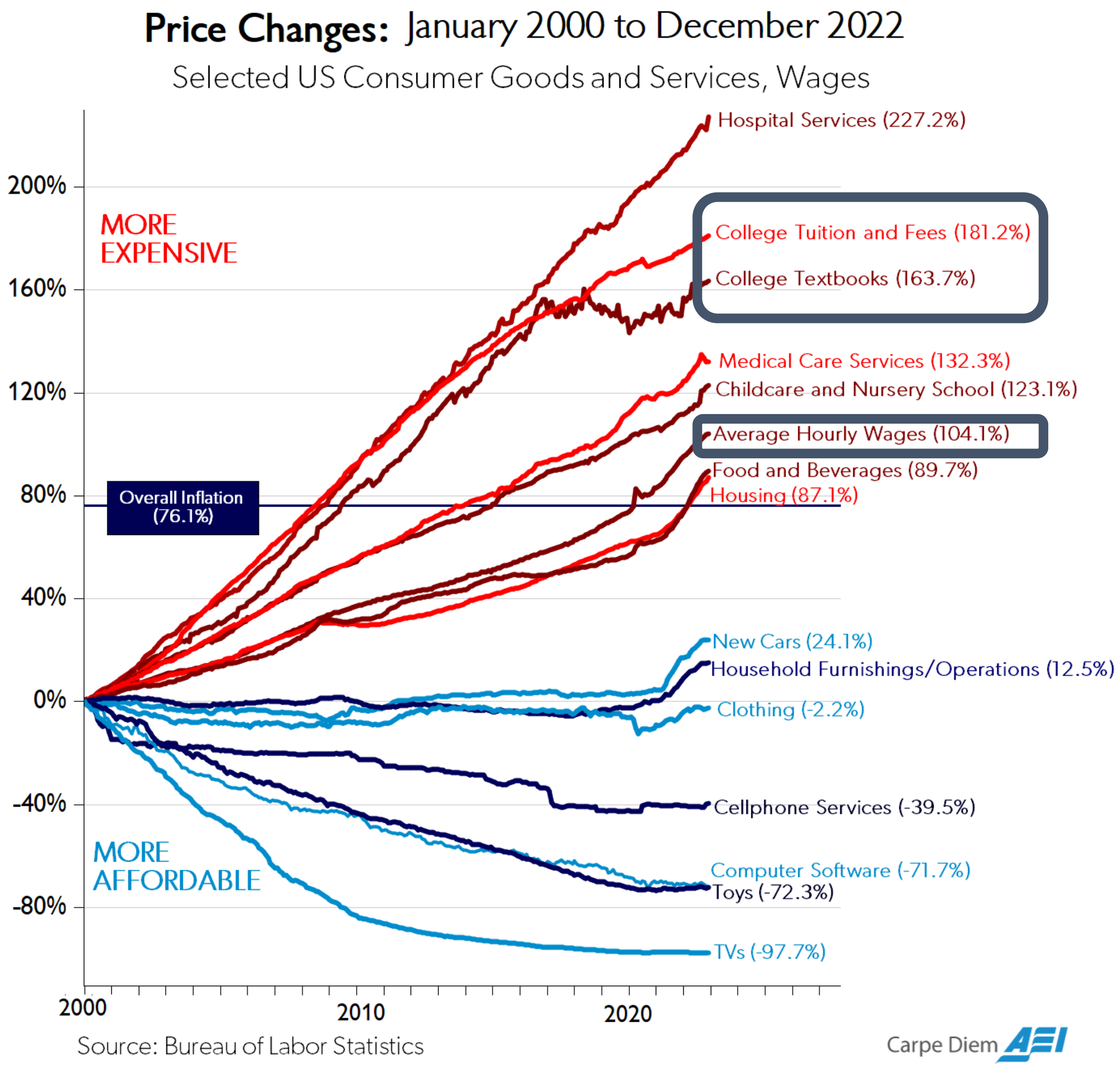
- Losses or negative cashflows occur when expenses (spending money) are greater than income (making money).
- To finance losses or negative cashflows, you either need to sell assets (the stuff you own) or add liabilities (the stuff you owe).*
  - Rewrite the fundamental accounting equation: Equity = Assets - Liabilities
  - Under either approach, your equity (net worth) decreases
- Losses or negative cashflows are unsustainable over long periods -- you eventually run out of stuff to sell and people who will lend you money.
- So, if high inflation makes the stuff we need and want more expensive, then our expenses (spending money) will increase. Therefore, we need more income (making money) just to keep up.

* Publicly traded companies can also sell equity (ex. through stock issuance), but that is beyond the scope of this discussion

Nominal values: actual monetary amounts vs. **Real values**: adjusted for effects of inflation

- Mia earned $15 per hour during her summer job at her parents' bakery. She wants to work at the bakery again the following summer. Her parents agree, since they were impressed with her work. They also agree to increase her wage from **$15 per hour** to **$16 per hour**.
- Annual inflation was 9.1% in the one-year period from the prior summer.
- Mia's **<u>nominal wages</u>** increased by **$1.00 per hour** or **6.7%**, but Mia's **<u>real wages</u>** decreased from the prior year!
- To have kept pace with inflation, Mia's wages would have had to increase by **$1.37** to **$16.37 per hour!**
- Prove It: $FV = PV \times (1 + {}^{r}/_{n})^{nt} = \$15 \times (1 + {}^{9.1\%}/_{1})^{1\times1} = \mathbf{\$16.37}$

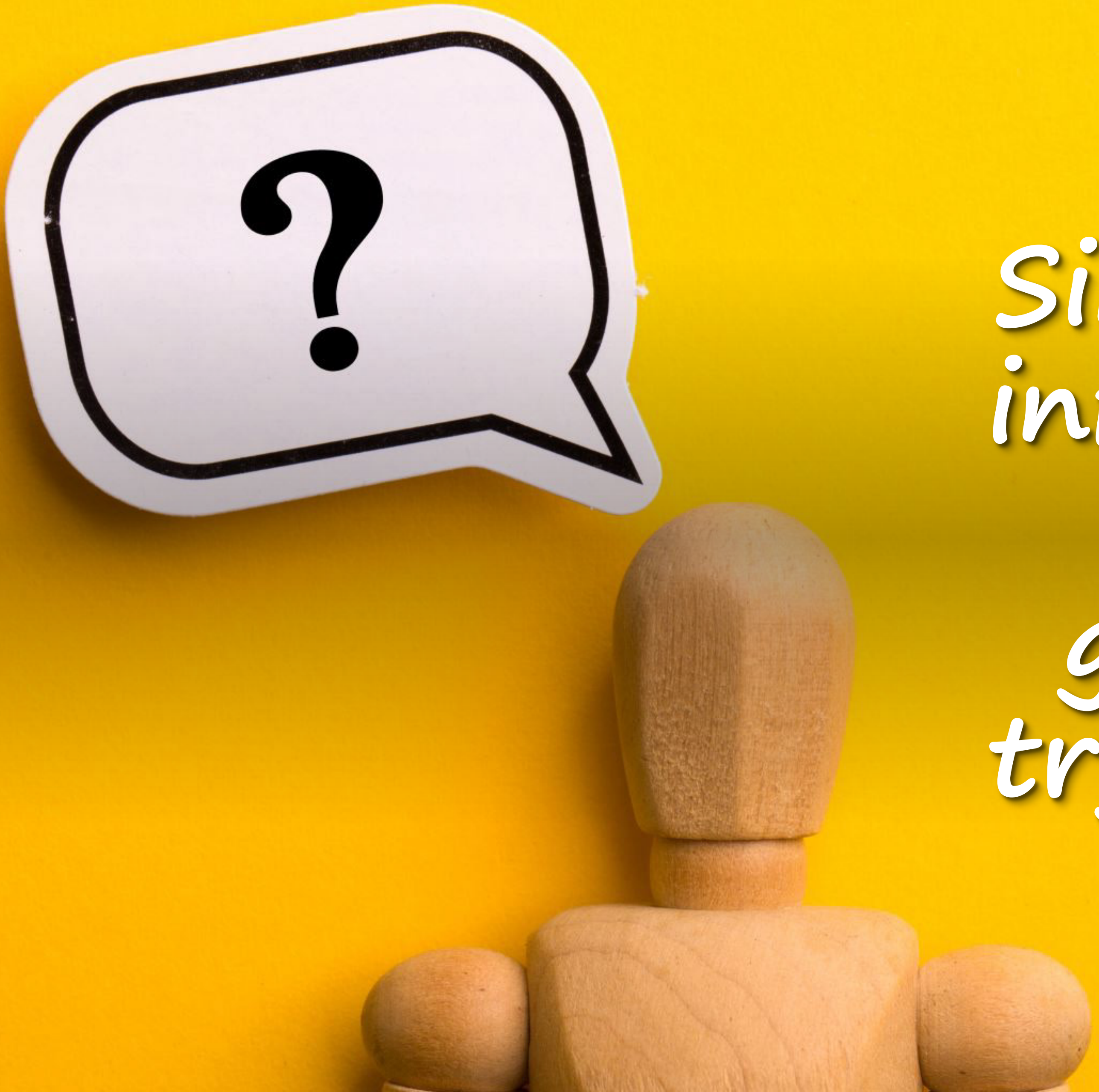
Goods, services, and information do not inflate at the same rate



Inflation and purchasing power losses are not always a doom and gloom scenario

- Incomes historically beat inflation
- Technological advancements and productivity gains have made "quality of life" goods, services, and information widely accessible
    - Examples: cell phones, dish washers, electricity, healthcare services, heating and cooling systems, indoor plumbing, internet, laundry machines, refrigerators, and televisions
    - All were luxuries or did not exist 100 years ago
- Life expectancies, child mortality rates, and education have all measurably been improved over the past 100 years

U.S. Census Bureau, Real Median Household Income in the United States [MEHOINUSA672N], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/MEHOINUSA672N, January 22, 2023.



Since too much inflation is bad, how might governments try to lower it?

Fighting Inflation with contractionary monetary policies & quantitative tightening

- Increase interest rates, which increases the costs of capital
  - Fed funds rate
  - Open market operations
- Increase bank reserve requirements, so banks make fewer loans
- Governments can increase the interest on bonds

Launch video example from: Investopedia

What about wage and price controls to fight inflation?

Government policies that set limits on the prices of goods, services, and/or information in an economy

Do you think wage and price controls are a good idea? Why or why not?

Wage and price controls typically fail and lead to…

1. **Shortages** – suppliers are unable to charge market prices, so less is produced
2. **Incentive problems** – businesses are discouraged from producing and selling
3. **Quality problems** – businesses cut corners to reduce costs, leading to quality decline
4. **Resource misallocation** – when prices are artificially controlled, signals to buyers and sellers about relative scarcity become distorted
5. **"Black markets"** – when demand for goods, services, or information is high and there are shortages, people will turn to illegal markets with higher prices

A century of wage and price control attempts

World War I price controls (1917-1919)

Federal government implemented price controls to help keep inflation under control and prevent profiteering. Led to shortages, black markets, and rationing, and the economy was still affected by inflation.

New Deal's National Recovery Administration (1933-1935)

The National Recovery Administration was created to stimulate the economy and reduce unemployment. Program included price controls and other regulations on businesses. It was inefficient and created barriers to entry for new businesses.

World War II price controls (1942-1947):

Federal government implemented price controls to keep inflation under control and prevent profiteering. However, the controls led to shortages of goods, black markets, and rationing.

Nixon Administration wage and price controls (1971-1974)

Implemented wage and price controls in response to rising inflation. Placed caps on wages and prices for goods and services. Led to shortages, long lines, and rationing. Businesses cut corners to reduce costs, which led to a decline in the quality of goods and services.

Carter Administration wage and price controls (1980)

Implemented 90-day wage and price control program to curb inflation. Program failed to significantly reduce inflation and led to shortages of goods and services, as well as reduced quality of goods and services.

Key Takeaways

- High inflation may require people to increase their income to keep pace
  - Recall that income = making money
- Fighting inflation often requires higher interest rates, making borrowing costs more expensive
- Wage and price controls are ineffective tools to fight inflation