Financial Literacy with Mr. 401(k)
Winter Term 2024 - 2025
February 3, 2025

Time and Money

Class 20: How Price Changes and Interest Work

Monday Money Matter$

On Saturday, February 1, 2025, U.S. President Donald Trump announced new tariffs -- 25% on goods from Mexico and Canada, and 10% on goods from China. Tariffs are like a tax on imported goods. In response, Canada's Prime Minister Justin Trudeau announced 25% tariffs on $155 billion worth of U.S. goods. Mexico also promised to retaliate but has not shared details. China said it would file a lawsuit with the World Trade Organization but has not yet announced any retaliatory trade actions.

Source: CNBC; https://www.cnbc.com/2025/02/02/it-doesnt-have-to-be-this-way-canada-mexico-and-china-respond-to-trumps-tariffs.html; Reference Date: February 2, 2025

Class Discussion

Suppose you receive some extra money in a birthday card. Would your spending change if you had more money?

In General, Spending Can Help Spur Economic Growth

More Spending

- You spend more money to buy a new hoodie

More Production

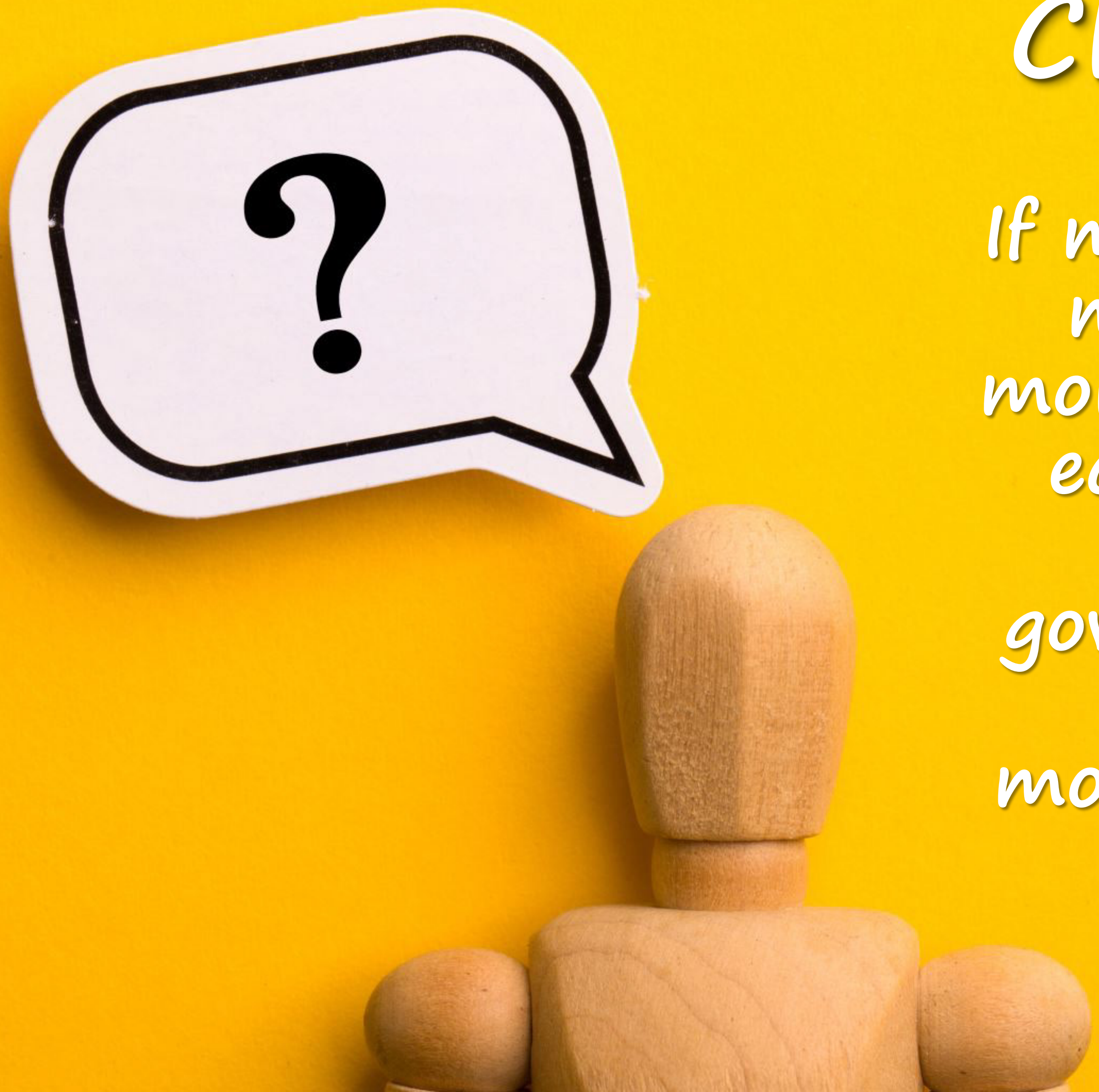
- The retailer orders more hoodies

More Jobs & Income for People

- The producer hires more workers to make hoodies

A Growing Economy

- Workers can invest, save, or spend their earnings.



Class Discussion

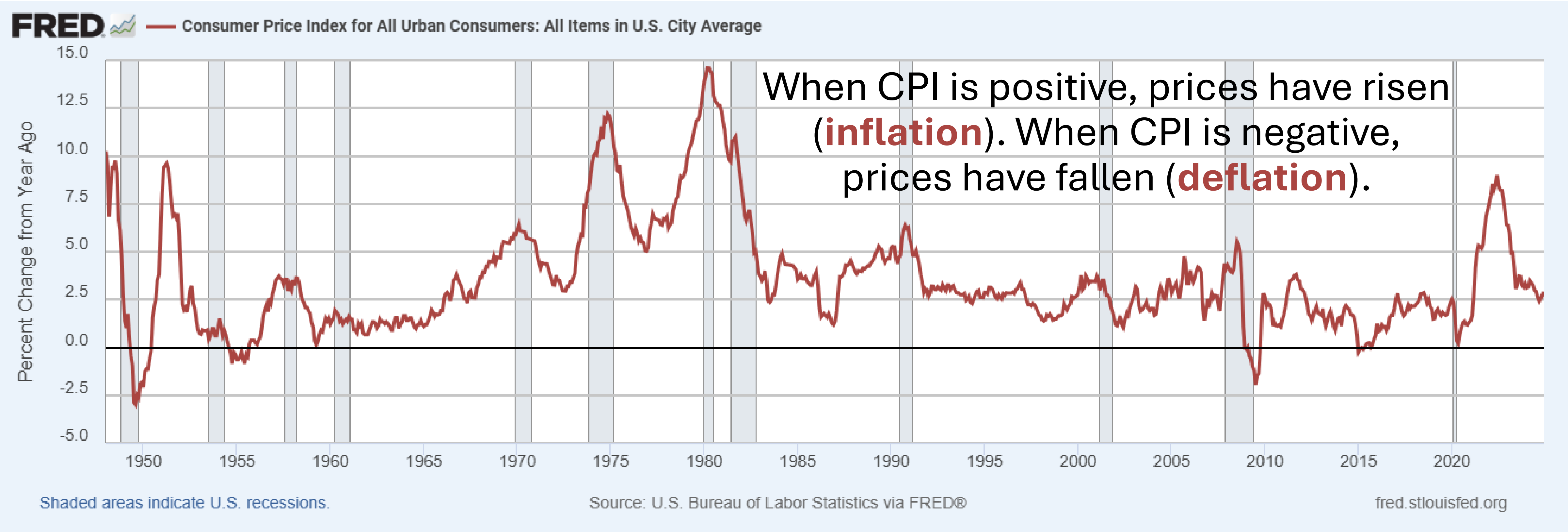
If more money results in more spending, and more spending can drive economic growth, do you think the government should just keep adding more money to the economy? Why or why not?

The general rise in prices over time

Inflation

Many Ways to Measure Inflation

Consumer Price Index ("CPI") is most common



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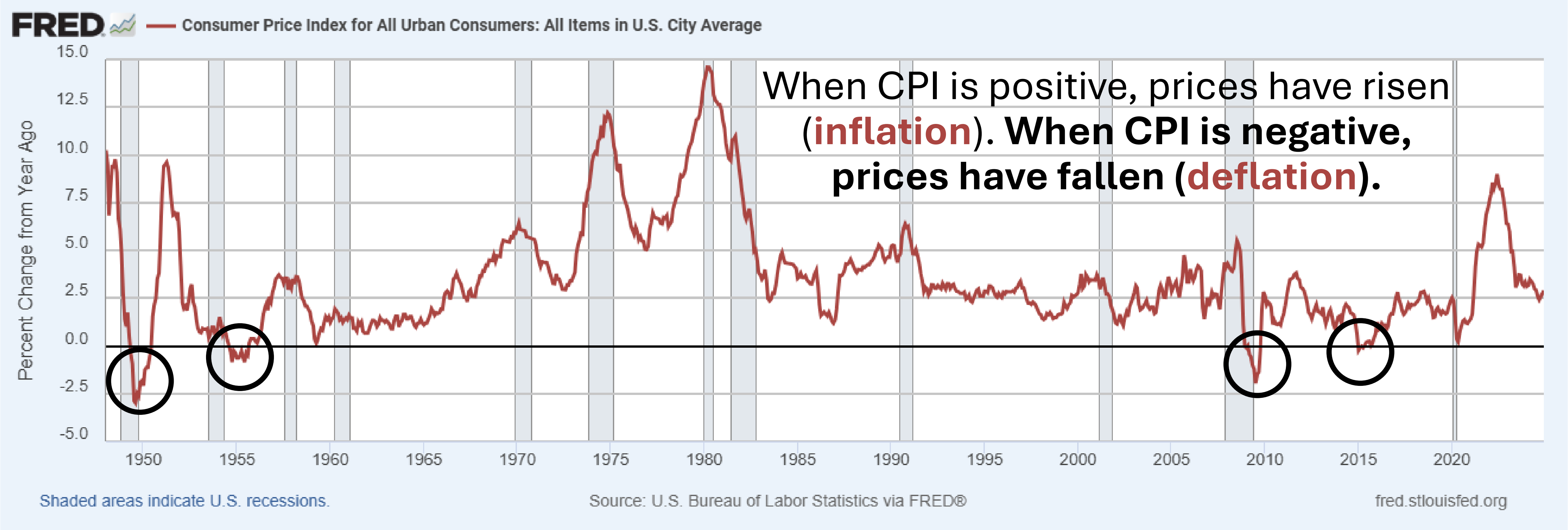

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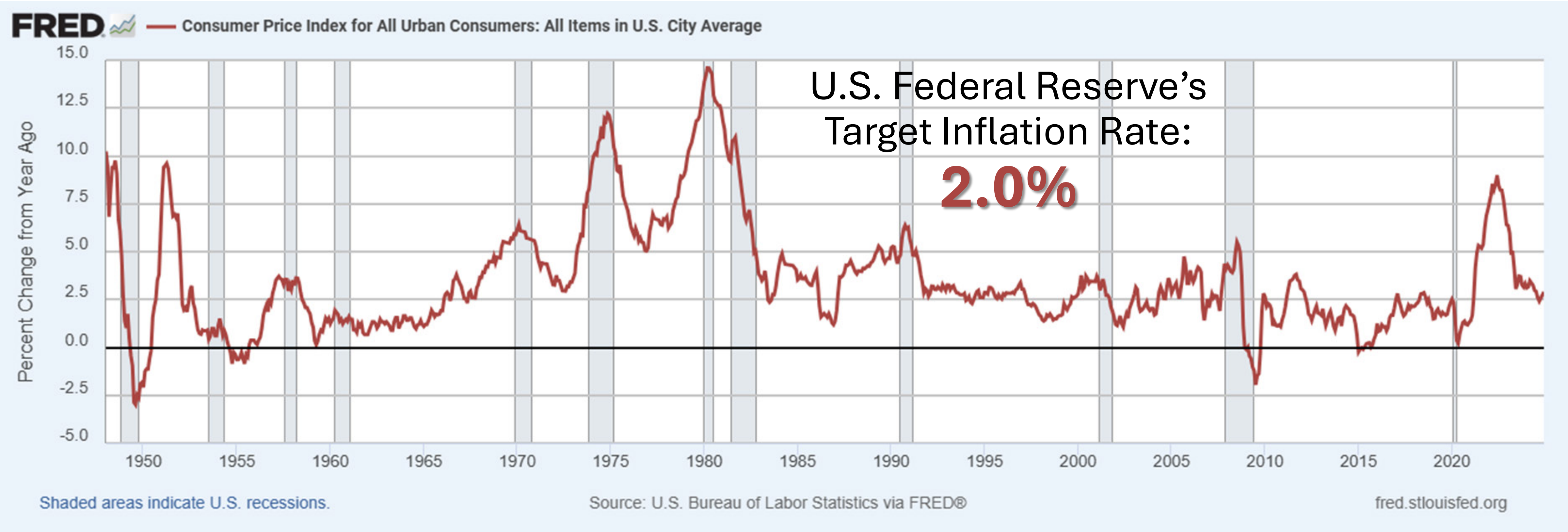

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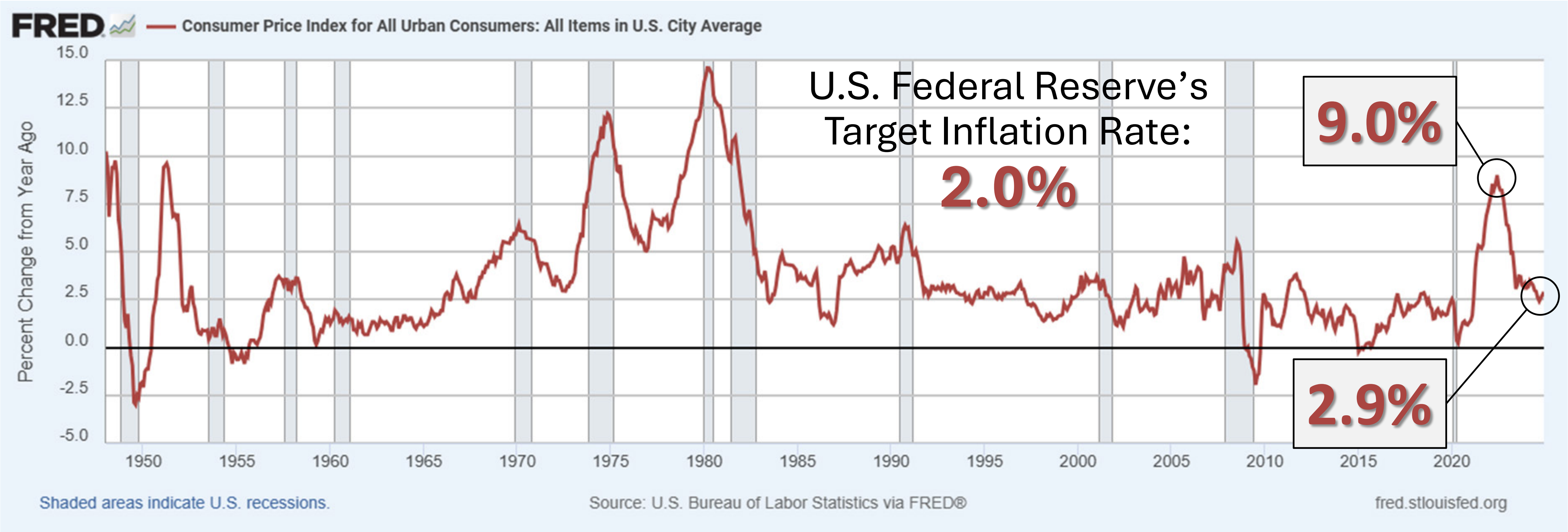


High Inflation Leads to...

Decreased Consumer Spending

Lower spending means fewer people buying things, which can slow down the economy and hurt businesses.

Increased Costs of Business

Businesses must spend more money to make products, which can lead to fewer jobs.

Higher Interest Rates

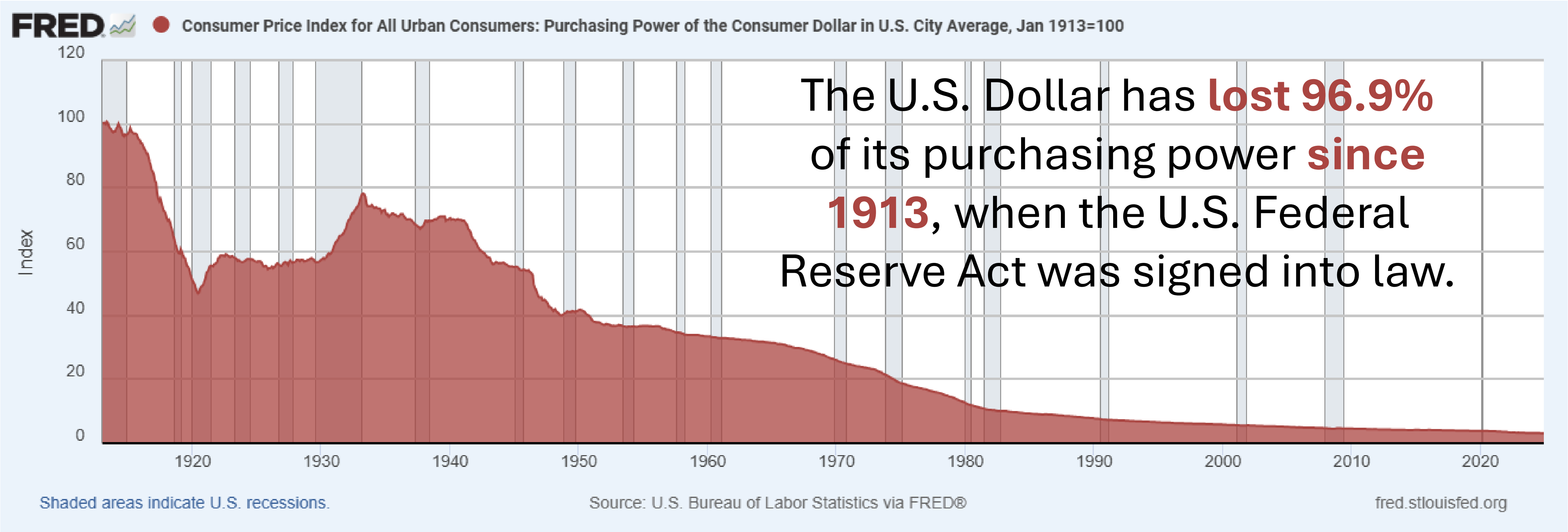
Central banks raise interest rates to slow inflation, making it more expensive to borrow money (Ex. home mortgages).

Faster Purchasing Power Losses

Money does not go as far, so you need more money to buy the same amount of stuff.

How does inflation affect us?

The purchasing power of our money falls over time.



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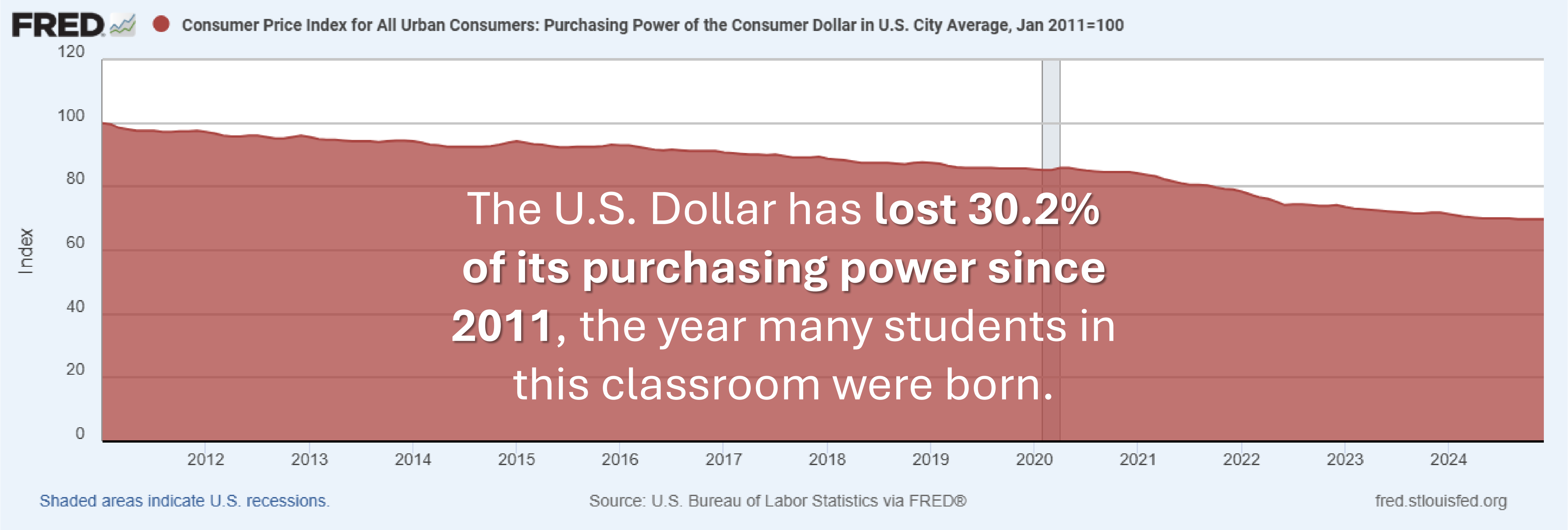
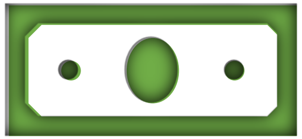
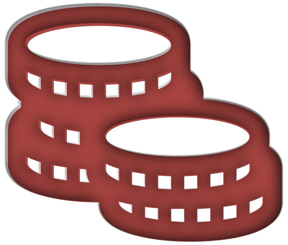


Losing Purchasing Power

Put simply → your money buys less!





$1.00

January 2011

70¢

January 2025

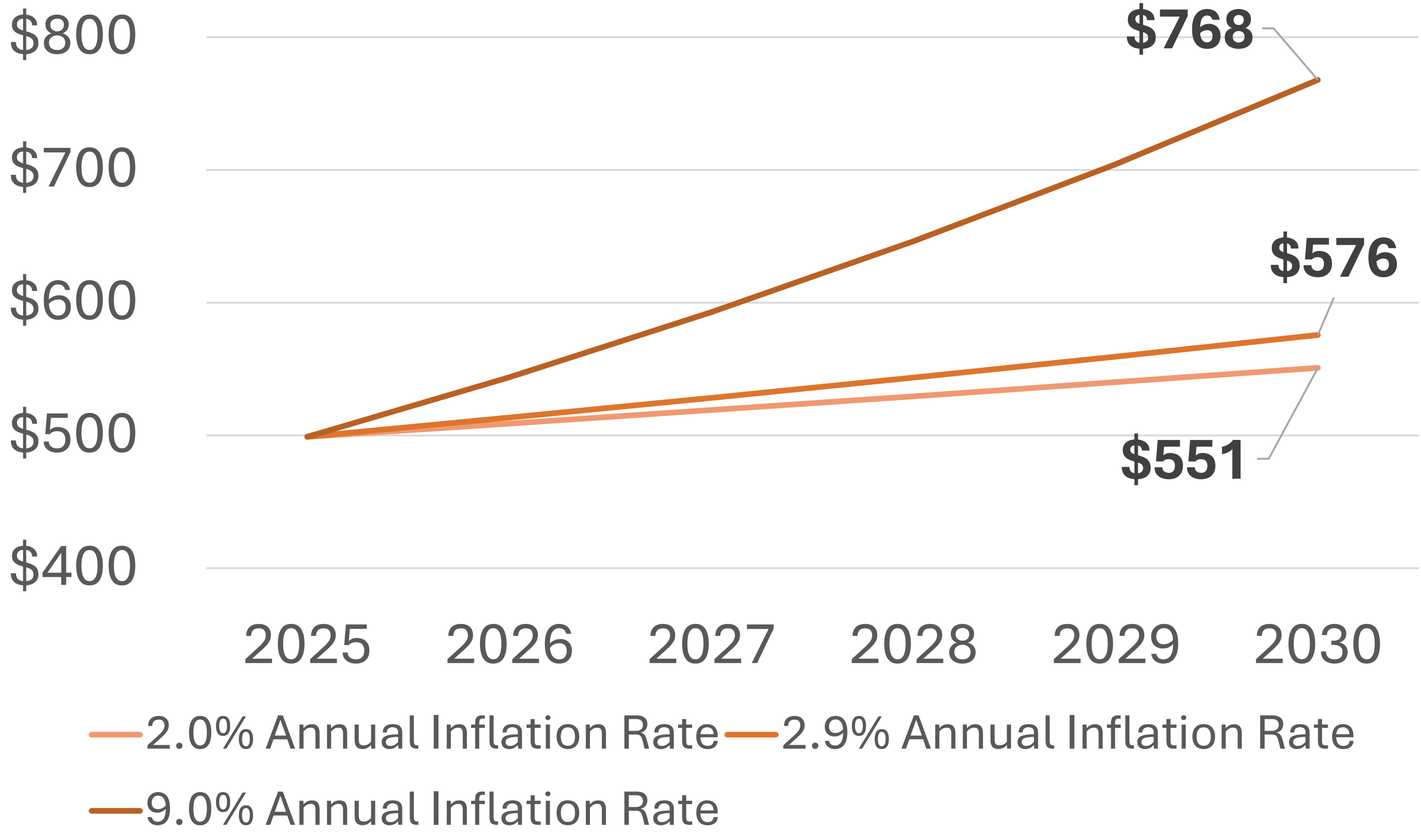
One Dollar from January 2011 purchases the same as 70¢ in January 2025!

How does inflation affect us?

The stuff we need or want may cost more in the future.

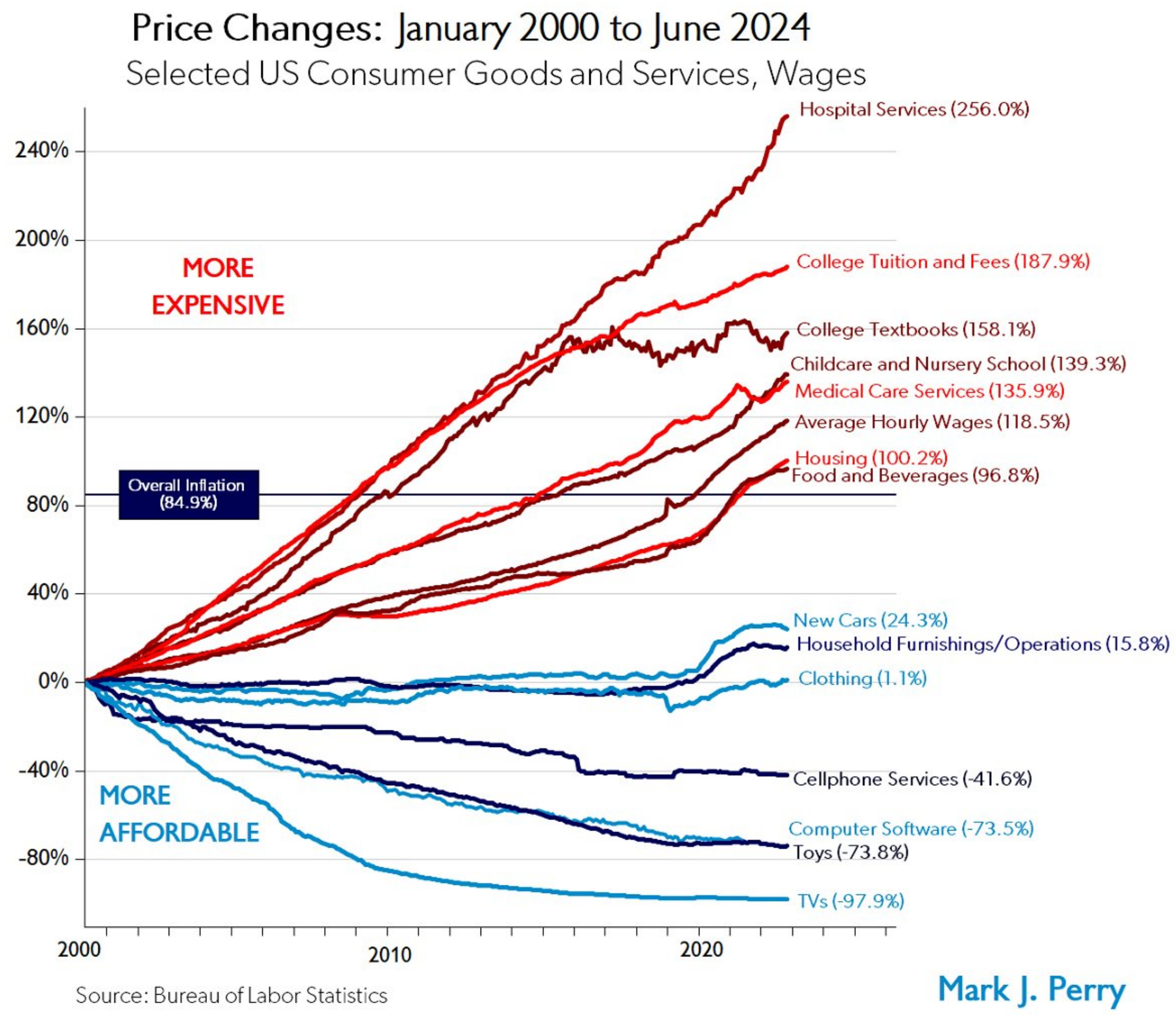
Xbox Series X

Today's Price **$499**



Some Prices Rise Faster Than Others

Goods and services inflate (or deflate) at different rates. Categories that benefit from technology innovations and obsolescence tend to deflate.



College Costs Have Risen Sharply. Are Wages Keeping Up?

If college costs keep rising faster than wages, what does that mean for students?

From January 2000 to June 2024

Wages vs. Costs

College Textbooks

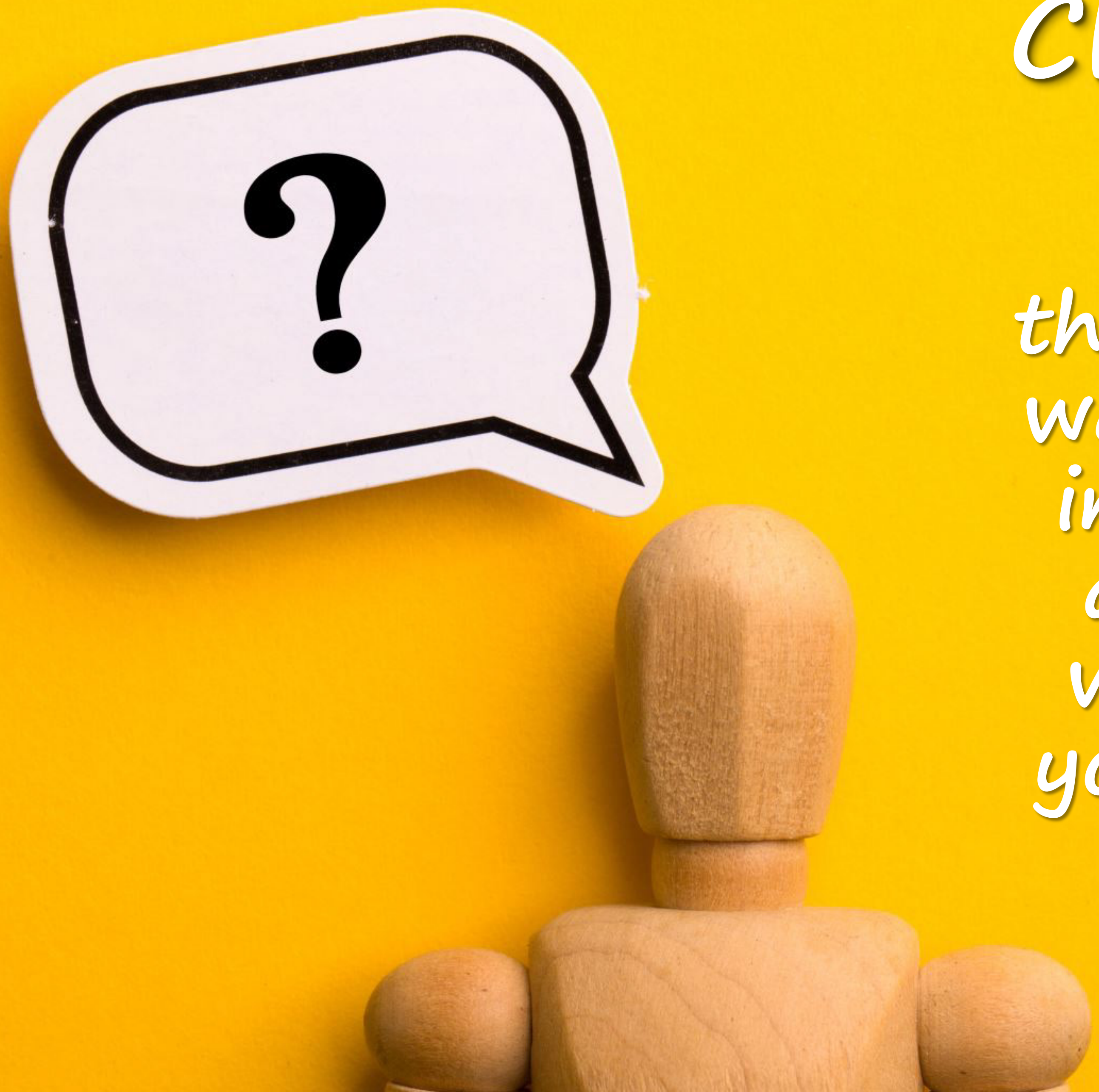
+158.1%

College Tuition

+187.9%

Hourly Wages

+118.5%



Class Discussion

If you know the things you need and want will cost more in the future, how does that change what you do with your money today?

Why Do Prices Keep Rising?

JARGON
ALERT

Gov’t Spending & Money Supply

More money in an economy chasing the same amount of goods and services can drive prices higher.

Demand-pull inflation

Supply Shocks

When key resources (like oil or food) become scarce, prices can rise for everyone.

Cost-push inflation

Expectations and Price Spirals

If workers expect prices to go up, they ask for higher wages. Businesses then raise prices to cover higher wages, creating a cycle.

Wage-price spirals

What Causes Inflation?

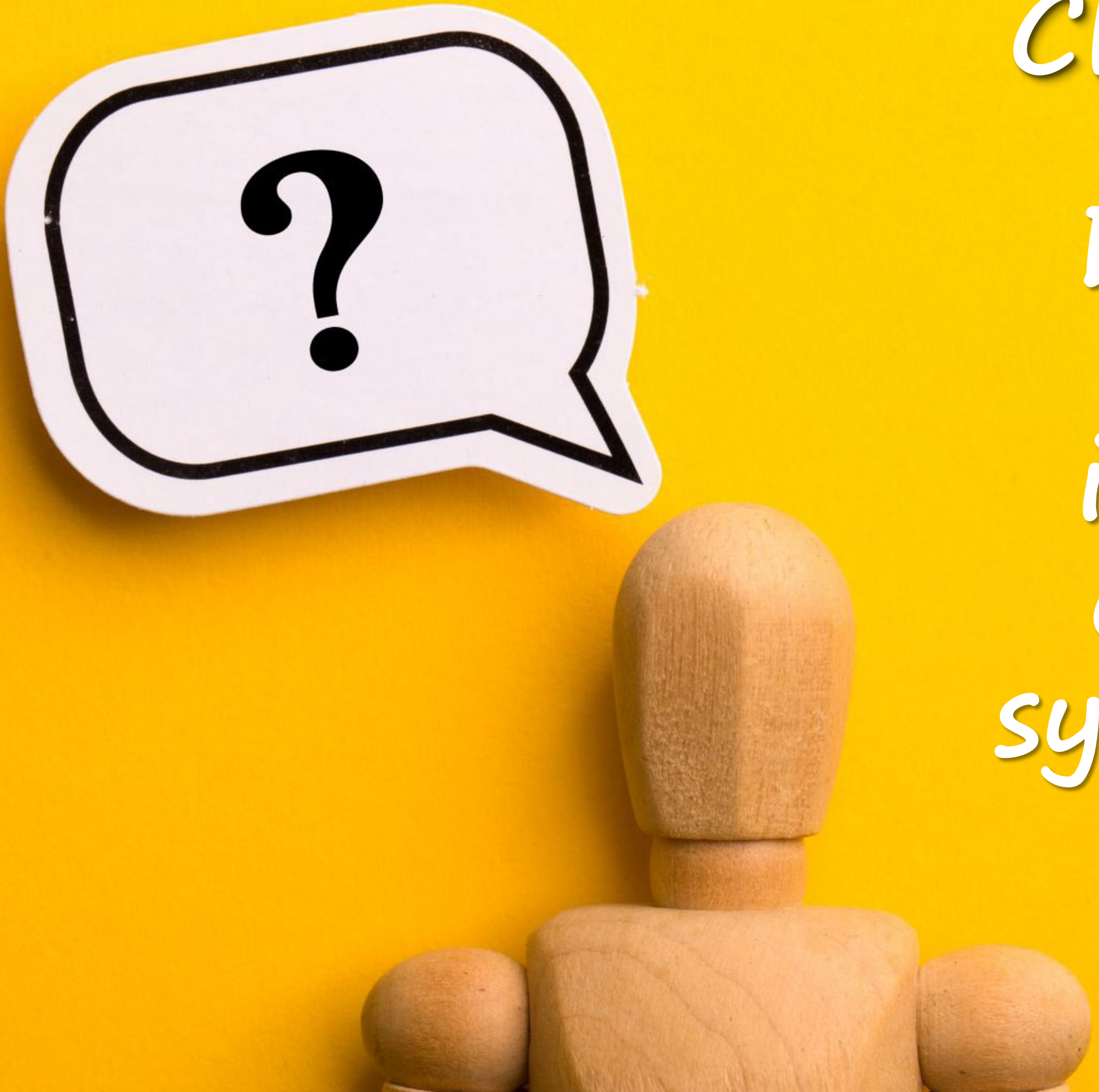
Milton Friedman was a Nobel Prize-winning economist who studied how money affects prices. He explained that inflation happens when there's too much money chasing too few goods.

🎥 Watch Video Clip on YouTube ▶️

Source: https://www.youtube.com/watch?v=F94jGTWNWsA

The cost of borrowing money, paid by the borrower to the lender

Interest



Class Discussion

Do you think interest is important in our financial system? Why or why not?

Why Lenders Charge Interest

💰 Default Risk

What if the borrower never pays back?

- Lenders take a **risk** that people **won't repay their loans**.
- **Example:** If you lend $20 to a friend and they never pay you back!

📉 Inflation Risk

Money loses value over time!

- If a lender gets paid back later, the money might not **buy as much**.
- **Example:** A $5 sandwich today might cost $6 next year!

📊 Opportunity Cost

They could make more in other ways!

- Lenders could **invest** their money or use it in **other ways**.
- **Example:** Instead of lending, they start a **business** or buy **stocks**.

Pros & Cons of Borrowing Money

✅ Why Borrowing May Be Helpful

- **Helps buy big things sooner** (House, car, college)
- **Emergency funds** (when savings are not enough)
- **Can help a business grow** (Taking a loan to open a shop)

📌 **Example:**

- A family **takes out a loan** to buy a home they couldn't afford in full.
- A student **gets a loan for college** to invest in their future.

⚠️ Why Borrowing Can be Risky

- **Interest adds extra cost** (You pay back **more** than you borrow)
- **Missed payments hurt your credit** (Makes borrowing harder later)
- **Too much borrowing can trap people in debt** (Credit cards with high interest)

📌 **Example:**

- Someone takes a **credit card loan for fun spending** but can't pay it back.
- A person **borrows too much** and struggles to pay monthly bills.

Pros & Cons of Lending Money

✅ Why Lending May Be Good

- **Earns extra money** – Lenders make a profit over time.
- **Creates steady income** – If the borrower pays on time, the lender gets paid regularly.
- **Better use of money** – Instead of letting cash sit, lenders can grow their money.

📌 **Example:**
A bank **lends money for a car loan** and makes money when the borrower pays interest.

⚠️ Why Lending Can be Risky

- **Could earn more elsewhere** – Investing in stocks or real estate might give better returns.
- **Borrowers might not pay** – If someone doesn't repay, the lender loses money.
- **Interest income is taxable** – Lenders may owe taxes on the interest they earn.

📌 **Example:**
If a lender **charges too little interest**, inflation might make their money worth less.

Method of calculating the interest on an asset or liability where the interest is calculated only on the principal

Simple Interest

Simple Interest Formula

Simple Interest Amount = Principal Amount × Interest Rate × Time in Years

Practical Application

Jane makes a $1,000 loan to John at a 10% annual **simple interest** rate. John repays the loan principal + interest after exactly 1-year.

1. **How much interest did John pay to Jane?**

Practical Application

Jane makes a $1,000 loan to John at a 10% annual **simple interest** rate. John repays the loan principal + interest after exactly 1-year.

1. How much <u>interest</u> did John pay to Jane?

Now, suppose John paid the loan principal + interest at the end of the 3rd year.

2. **How much <u>interest</u> did John pay to Jane?**

Three Key Takeaways

1. Inflation is the general rise in the prices over time.
2. Many factors cause inflation including money in circulation, supply shocks, and future inflation expectations.
3. Interest is the cost of borrowing money, paid by the borrower to the lender.

Where to Learn More

- [Interest: Definition and Types of Fees for Borrowing]() Money by James Chen via Investopedia
- [Teaching About Money, Spending, and Inflation Using a Classroom Inflation Auction]() by Scott Wolla, Ph.D., Federal Reserve Bank of St. Louis
- Video: [What is Inflation in 2 Minutes](), by Tuttle Twins

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