Staying Ahead of Prices

Real interest rates for savers and borrowers, what inflation does to cash over ten years, and tools built to keep pace.

Name: _____ Date: _____

OBJECTIVE

Calculate real interest rates from both the saver's and the borrower's side, measure how inflation erodes cash over time, and explain how I bonds, TIPS, and fixed vs. variable loan rates respond to inflation.

1. Real rates on both sides

Real rate ≈ nominal rate − inflation. For a saver, a positive real rate means their money is growing faster than prices. For a borrower, a lower real rate means the loan is getting cheaper.

Situation	Nominal	Inflation	Real rate	Who comes out ahead?
Savings account	0.5%	3%	_____	
High-yield savings account	4.0%	3%	_____	
Fixed-rate car loan	7.0%	3%	_____	
Same car loan, inflation surprises	7.0%	8%	_____	

2. The shrinking stash

Jordan has $5,000 and inflation runs 3% every year. To find what money is worth in today's dollars, divide by 1.03 once for each year.

Plan	Dollars after 10 years	Worth in today's dollars
Keep $5,000 in cash (earns 0%)	$5,000	_____
Savings account at 4% a year	$7,401	_____

Hint: after 10 years at 3%, prices are about 1.344 times higher, so divide each amount by 1.344.

How much buying power did the cash plan lose? _____ Did the savings plan beat inflation? _____

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3. Built to keep up: I bonds and TIPS

	Series I savings bond	Treasury Inflation-Protected Securities
How it adjusts	Rate = fixed rate + an inflation rate reset every 6 months	Principal rises with the CPI; the fixed coupon is paid on the new principal
Where to buy	TreasuryDirect.gov only	TreasuryDirect, or through a brokerage
Main limits	$10,000 per person per year; hold 1 year; cash before 5 years, lose 3 months' interest	Price can fall before maturity if sold early, like any bond

a) An I bond has a 1.2% fixed rate and a 1.0% six-month inflation rate. Its approximate annual rate = fixed rate + (2 × six-month inflation rate) = _____ %

b) A $1,000 TIPS pays a 1.5% coupon. The CPI rises 4% over the year, so its principal becomes _____. Interest for the year = 1.5% × new principal = _____.

4. Fixed vs. variable when rates rise

Two people each borrow $20,000. To keep the math simple, figure interest on the full $20,000 balance each year.

Loan	Year 1 rate	Year 1 interest	Year 2 rate	Year 2 interest
Fixed rate	7%	_____	7%	_____
Variable rate	6%	_____	9%	_____

Which borrower paid less over the two years? What kind of borrower might still pick a variable rate?

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TRACK IT

Find the current I bond rate on TreasuryDirect.gov and the latest 12-month CPI inflation rate at bls.gov/cpi. Then find the rate on one real savings account. Which one has the best real rate right now?

STANDARD NOTE

SSEPF4 asks students to explain how interest rates affect saving and borrowing, and the core worksheet ends with a one-table real-return check. This Level 2 sheet carries real rates over to the borrower's side and introduces the savings tools the U.S. Treasury designed specifically to keep pace with inflation.