



Chapter 23 Exercises

Self-Check Questions

- The following table shows the prices of fruit purchased by a typical college student from 2016 to 2019. Calculate the amount spent each year on the “basket” of fruit with the quantities given in Column 2.

Items	Qty.	2016		2017		2018		2019	
		Price	Amount Spent	Price	Amount Spent	Price	Amount Spent	Price	Amount Spent
Bananas	12	\$0.57		\$0.56		\$0.57		\$0.57	
Grapes	2	\$2.76		\$2.64		\$2.58		\$2.45	
Grapefruit	3	\$1.16		\$1.28		\$1.35		\$1.35	
Oranges	7	\$1.25		\$1.34		\$1.41		\$1.37	
Total	-	-		-		-		-	

- Construct the price index for the “basket” of fruit in Question 1, using 2018 as the base year.
- Using the values from Question 2, compute the inflation rate for fruit prices from 2016 to 2019.
- Edna is living in a retirement home where most of her needs are taken care of, but she has some money for discretionary spending. Based on the basket of goods in the following table, by what percentage does Edna’s cost of living increase between Year 1 and Year 2?

Items	Quantity	Price at Year 1	Price at Year 2
Gifts for grandchildren	12	\$50	\$60
Pizza delivery	24	\$15	\$16
Blouses	6	\$60	\$50
Vacations	2	\$400	\$420

- Which of the price indices discussed in this chapter would be best to use to adjust your paycheck for inflation?
- The consumer price index is subject to the substitution bias and the quality/new goods bias. Are the producer price index and the GDP deflator also subject to these biases? Why or why not?
- If inflation rises unexpectedly by 5%, would a state government borrowing money to pay for a new highway benefit or lose?
- How should an increase in inflation affect the interest rate on an adjustable-rate mortgage?
- A fixed-rate mortgage has the same interest rate over the life of the loan, whether the mortgage is for fifteen or thirty years. By contrast, an adjustable-rate mortgage changes with market interest rates over the life of the mortgage. If inflation falls unexpectedly by 3%, what will likely happen to a homeowner with an adjustable-rate mortgage?

Review Questions

10. How is a basket of goods and services used to measure the price level?
11. Why are index numbers used to measure the price level rather than the dollar value of goods?
12. What is the difference between the price level and the rate of inflation?
13. Why does substitution bias arise if the inflation rate is calculated based on a fixed basket of goods?
14. Why does the quality/new goods bias arise if the inflation rate is calculated based on a fixed basket of goods?
15. What has been the typical range of inflation in the U.S. economy in the last decade or so?
16. Over the last century, during what periods was the U.S. inflation rate highest and lowest?
17. What is deflation?
18. Who is likely to benefit from inflation? Who is likely to be harmed by inflation?
19. What is indexing?
20. Name several forms of indexing in the private and public sector.

Critical Thinking Questions

21. Inflation rates, like most statistics, are imperfect measures. Can you identify some ways that the inflation rate for fruit does not perfectly capture the rising price of fruit?
22. Given the federal budget deficit in recent years, some economists have argued that by adjusting Social Security payments for inflation using the CPI, Social Security is overpaying recipients. What is the argument being made, and do you agree or disagree with it?
23. Why is the GDP deflator not an accurate measure of inflation as it impacts a household?
24. Imagine that the government statisticians who calculate the inflation rate have been updating the basic basket of goods once every ten years, but now they decide to update it every five years. How will this change affect the amount of substitution bias and the quality/new goods bias?
25. Describe a situation—either a government policy situation, an economic problem, or a private sector situation—where using the CPI to convert from nominal to real values is more appropriate than using the GDP deflator.
26. Describe a situation—either a government policy situation, an economic problem, or a private sector situation—where using the GDP deflator to convert from nominal to real values is more appropriate than using the CPI.
27. Why do you think the U.S. experience with inflation from approximately 1980–2020 has been so much milder than in many other countries?
28. If, over time, wages and salaries on average rise at least as fast as inflation, why do people worry about how inflation affects incomes?
29. Who in an economy is the big winner from inflation?
30. If a government gains from unexpected inflation when it borrows, why would it choose to offer indexed bonds?
31. Do you think perfect indexing is possible? Why or why not?

Problems

32. Suppose the index number representing the price level changes from 110 to 115 in one year and then from 115 to 120 the next year. Since the index number increases by 5 each year, is 5 the inflation rate each year? Is the inflation rate the same each year? Explain your answer.
33. The total price of purchasing a basket of goods in the United Kingdom over 4 years is the following:
- Year 1 = £940
 - Year 2 = £970
 - Year 3 = £1,000
 - Year 4 = £1,070
- Calculate two price indices, one using Year 1 as the base year (set equal to 100) and the other using Year 4 as the base year (set equal to 100). Then, calculate the inflation rate based on the first price index. If you had used the other price index, would you get a different inflation rate? If you are unsure, do the calculation and find out.
34. What has the U.S. inflation rate been during the last few years?
35. If inflation rises unexpectedly by 5%, indicate for each of the following whether the economic actor is helped, hurt, or unaffected:
- a. A union member with a COLA wage contract
 - b. Someone with a large stash of cash in a safe-deposit box
 - c. A bank lending money at a fixed rate of interest
 - d. A person who is not due to receive a pay raise for another eleven months
36. Rosalie knows that when she retires in 16 years, her company will give her a one-time payment of \$20,000. However, if the inflation rate is 6% per year, how much buying power will that \$20,000 have when measured in today's dollars? (*Hint:* start by calculating the rise in the price level over the 16 years.)